SEARCH

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=> d his 160

     (FILE 'HCAPLUS' ENTERED AT 10:29:22 ON 29 JUL 2008)
L60           34 S L56 AND (L15-L18 OR L21)
                 SAV TEMP L60 WEI459HCP/A

=> d que 160
L2             3 SEA FILE=REGISTRY ABB=ON  PLU=ON  (372492-00-7/BI OR
                 477700-15-5/BI OR 866331-36-4/BI)
L4         72683 SEA FILE=REGISTRY ABB=ON  PLU=ON  (LI(L)O(L)M)/ELS(L)3-
                 6/ELC.SUB
L5                 QUE  ABB=ON  PLU=ON  3/ELC.SUB
L6          4104 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND L5
L7           297 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND .01-9/CO
L8             8 SEA FILE=REGISTRY ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)M
                 G)/ELS(L)5/ELC.SUB
L9           995 SEA FILE=REGISTRY ABB=ON  PLU=ON  (LI(L)O(L)CO(L)NI(L)M
                 N)/ELS(L)5/ELC.SUB
L10            3 SEA FILE=REGISTRY ABB=ON  PLU=ON  L2 AND L4
L12            6 SEA FILE=REGISTRY ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)M
                 G(L)M)/ELS(L)6/ELC.SUB
L13            5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L12 AND (AL OR TI OR
                 SN)
L14           24 SEA FILE=REGISTRY ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)M
                 G(L)M)/ELS
L15           13 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13
L16           14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12
L17           48 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L10
L18           25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L8
L19         6603 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L20         1237 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9
L21           43 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L14
L22           25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L21 AND L18
L23       237753 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "BATTERY CATHODES"+MAX
                 /CT
L24           13 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L23 AND L16
L25         7511 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ((L15 OR L16 OR L17
                 OR L18 OR L19 OR L20 OR L21 OR L22) OR L24)
L26         7286 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 AND L23
L27        15324 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "SECONDARY BATTERY
                 CATHODES"+MAX/CT
L30       200884 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "SECONDARY BATTERIES"+
                 MAX/CT OR (SECONDAR? OR LITHIUM OR LI)(2A)BATTER?
L31                QUE  ABB=ON  PLU=ON  CATHOD? OR POSITIVE(A)ELECTROD?
L32                QUE  ABB=ON  PLU=ON  "SECONDARY BATTERY ANODES"+MAX/CT
                   OR ANOD? OR NEGATIVE(A)ELECTROD?
L33                QUE  ABB=ON  PLU=ON  ELECTROLYT?(2A)(NONAQ? OR NON(W)AQ
                   UEOUS OR ORGANIC)
L34           5921 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L30 AND (L31 OR L23
                   OR L27) AND L32 AND L33
L35           1321 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND L34
L36             11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L35 AND (L18 OR L21)
L37                QUE  ABB=ON  PLU=ON  LAYER?
L38            362 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L35 AND L37
L39              7 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L36 AND L37
L40                QUE  ABB=ON  PLU=ON  PARTICLES+MAX/CT
L43             14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L38 AND L40
L44                QUE  ABB=ON  PLU=ON  PARTICL? OR MICROPARTICL? OR PARTI
                   CULAT? OR DUST? OR GRIT? OR GRAIN# OR GRANUL? OR POWDER
                   ? OR SOOT? OR SMUT? OR FINES# OR PRILL? OR FLAKE# OR PE
                   LLET?
L45             76 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L38 AND L44
L46             14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 AND (L18 OR L21)
L48              4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L46 AND L38
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L49	4	SEA FILE=HCAPLUS ABB=ON PLU=ON L46 AND L35
L50	27	SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND (L15 OR L16 OR L17 OR L18 OR L21)
L51	6	SEA FILE=HCAPLUS ABB=ON PLU=ON L50 AND (L38 OR L45)
L52	16	SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND L20
L53	16	SEA FILE=HCAPLUS ABB=ON PLU=ON L52 AND L30 AND (L23 OR L27 OR L31)
L54	12	SEA FILE=HCAPLUS ABB=ON PLU=ON L53 AND L33
L55	40	SEA FILE=HCAPLUS ABB=ON PLU=ON L36 OR L39 OR L43 OR (L48 OR L49) OR (L51 OR L52 OR L53 OR L54)
L56	48	SEA FILE=HCAPLUS ABB=ON PLU=ON L50 OR L55
L60	34	SEA FILE=HCAPLUS ABB=ON PLU=ON L56 AND ((L15 OR L16 OR L17 OR L18) OR L21)

SEARCH RESULTS

=> d l60 1-34 ibib ed abs hitstr hitind

L60 ANSWER 1 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:701893 HCAPLUS Full-text
DOCUMENT NUMBER: 149:13849
TITLE: Nonaqueous electrolyte secondary batteries with mixed oxide cathodes
INVENTOR(S): Yamamoto, Satoshi; Nishida, Nobumichi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008135245	A	20080612	JP 2006-319534	2006 1128
PRIORITY APPLN. INFO.:			JP 2006-319534	2006 1128

ED Entered STN: 12 Jun 2008
AB The title batteries include cathodes containing (a) 10-60 weight% LiaNi(1-x-y)CoxMlyO2 (a = 0-1.2; 0<x; 0 ≤y; x + y ≤0.4; M1 contains Al and/or Mn), (b) LibCo(1-s)M2sO2 (b = 0-1.1; s = 0.01-0.05; M2 contains Mg, Al, Ti, Mn, and/or Zr), and (c) LicMntNiuCovM3wO2 (c = 0-1.2; t = 0.1-0.5; u = 0.1-0.5; 0 ≤v; w = 0-0.03; t + u + v + w = 1; t/u = 0.95-1.05; M3 contains Mg, Al, Ti, and/or Zr). Preferably, the cathodes contain ≥10 weight% c. The batteries have large capacity and show excellent charge-discharge characteristics.
IT 203005-82-7P, Cobalt lithium manganese nickel oxide (Co0.15LiMn0.05Ni0.8O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 493325-93-5P, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.34Ni0.33O2) 868842-32-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary batteries with cathodes containing Ni Co mixed oxides, Li Co mixed oxides, and Li Mn Ni Co mixed oxides)
RN 203005-82-7 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.15LiMn0.05Ni0.8O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.15	7440-48-4
Ni	0.8	7440-02-0
Mn	0.05	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number

O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

RN 493326-93-5 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.34Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.34	7439-96-5
Li	1	7439-93-2

RN 868842-82-4 HCAPLUS
CN Aluminum cobalt lithium magnesium zirconium oxide (Al0.01Co0.97LiMg0.01Zr0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Zr	0.01	7440-67-7
Co	0.97	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery cathode; nickel cobalt lithium manganese lithium mixed oxide cathode; cobalt lithium mixed oxide cathode nonaq secondary battery; lithium nickel cobalt mixed oxide cathode nonaq secondary battery
IT Secondary batteries
(lithium; nonaq. electrolyte secondary batteries with cathodes containing Ni Co mixed oxides, Li Co mixed oxides, and Li Mn Ni Co mixed oxides)
IT Battery cathodes
(nonaq. electrolyte secondary batteries with cathodes containing Ni Co mixed oxides, Li Co mixed oxides, and Li Mn Ni Co mixed oxides)
IT 113066-89-0P, Cobalt lithium nickel oxide (CoO.2LiNiO.8O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary batteries with cathodes containing Ni Co mixed oxides, Co mixed oxides, and Mn Ni Co mixed oxides)
IT 193214-24-3P, Aluminum cobalt lithium nickel oxide (Al0.05Co0.15LiNi0.8O2) 203005-82-7P, Cobalt lithium manganese nickel oxide (Co0.15LiMn0.05Ni0.8O2) 772492-40-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 493326-93-5P, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.34Ni0.33O2) 868842-82-4P 1030313-66-6P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary batteries with cathodes containing Ni Co mixed

oxides, Li Co mixed oxides, and Li Mn Ni Co mixed oxides)

L60 ANSWER 2 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:635720 HCAPLUS Full-text
DOCUMENT NUMBER: 148:589350
TITLE: Secondary nonaqueous electrolyte lithium battery having two-layer separator with controlled gas permeability
INVENTOR(S): Yamashita, Noriko; Iwanaga, Masato
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008123861	A	20080529	JP 2006-307012	2006 1113
PRIORITY APPLN. INFO.:			JP 2006-307012	2006 1113

ED Entered STN: 29 May 2008
AB The secondary nonaq. electrolyte battery contains cathode active materials having potential (Li standard) 4.4-5.1 V and a separator comprising 2 layers, the layer at the cathode side and that at the anode side having gas permeability 250-400 and 60-200 s/100 mL, resp. Preferably, the cathode active materials in the battery are mixts. containing Li Co mixed oxides comprising LiCoO2, Zr, and Mg and layered Li Mn Ni oxides, and the anode active materials are carbonaceous materials. The battery shows high capacity after repeated cycles and high-temperature storage after charging.
IT 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number

O		2	17778-80-2
Co		1	7440-48-4
Li		1	7439-93-2

IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(layered, cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
ST nonaq electrolyte lithium battery separator gas permeability; cathode lithium oxide battery separator gas permeability; anode carbon lithium battery separator gas permeability
IT Carbonaceous materials (technological products)
RL: TEM (Technical or engineered material use); USES (Uses)
(anode; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
IT Secondary batteries
(lithium; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
IT Battery anodes
Battery cathodes
Secondary battery separators
(secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
IT Laminated plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(separator; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
IT 7782-42-5, Graphite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(anode; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)
IT 7439-95-4, Magnesium, uses 7440-67-7, Zirconium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(cathode containing lithium cobalt oxide containing; secondary nonaq. electrolyte Li

battery having 2-layer separator with different gas permeabilities at cathode and anode sides)

IT 682499-37-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)

IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)

IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(laminated, separator; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)

IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(layered, cathode containing; secondary nonaq. electrolyte Li battery having 2-layer separator with different gas permeabilities at cathode and anode sides)

L60 ANSWER 3 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:612100 HCAPLUS Full-text
DOCUMENT NUMBER: 148:565392
TITLE: Non-aqueous electrolyte secondary cell
INVENTOR(S): Yamamoto, Satoshi; Nishida, Nobumichi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 13pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1923938	A1	20080521	EP 2007-120633	20071114
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
JP 2008123972	A	20080529	JP 2006-309799	20061116
KR 2008044751	A	20080521	KR 2007-77019	20070731
CN 101183711	A	20080521	CN 2007-10142419	20070822
US 20080118839	A1	20080522	US 2007-941252	20071116

PRIORITY APPLN. INFO.: JP 2006-309799 A
2006
1116

ED Entered STN: 22 May 2008
AB The present disclosure aims to provide a non-aq . electrolyte secondary cell having high capacity and capable of preventing elution of cobalt and decomposition of the electrolyte. This aim can be accomplished by providing a non-aqueous electrolyte secondary cell comprising a pos. electrode having a pos. electrode active material, an neg . electrode having an neg. electrode active material, and non-aqueous electrolyte, wherein the pos. electrode active material comprises lithium cobalt oxide to which at least one material selected from the group consisting of Mg, Al, Ti, and Zr was added, and the pos. electrode comprises lithium phosphate.
IT 756879-33-1
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. electrode component; non-aqueous electrolyte secondary cell)
RN 756879-33-1 HCAPLUS
CN Aluminum cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2
Al	x	7429-90-5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary cell pos electrode active material
IT Styrene-butadiene rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(binder, neg. electrode component; non-aqueous electrolyte secondary cell)
IT Secondary batteries
(lithium; non-aqueous electrolyte secondary cell)
IT Battery electrodes
(non-aqueous electrolyte secondary cell)
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(non-aqueous electrolyte secondary cell)
IT 24937-79-9, Pvdf
RL: TEM (Technical or engineered material use); USES (Uses)
(binder, pos. electrode component; non-aqueous electrolyte secondary cell)
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 21324-40-3, Lithium hexafluorophosphate
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolyte component; non-aqueous electrolyte secondary cell)
IT 7440-50-8, Copper, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(foil, neg. electrode substrate; non-aqueous electrolyte secondary cell)
IT 7429-90-5, Aluminum, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(foil, pos. electrode substrate; non-aqueous electrolyte secondary cell)
IT 7782-42-5, Graphite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(neg. electrode component; non-

aqueous electrolyte secondary cell)
IT 10377-52-3, Lithium phosphate.
RL: TEM (Technical or engineered material use); USES (Uses)
(neg. electrode material; non-
aqueous electrolyte secondary cell)
IT 60-29-7, Diethyl ether, uses 96-48-0, γ-Butyrolactone
105-58-8, Diethyl carbonate 108-29-2, γ-Valerolactone
108-32-7, Propylene carbonate 109-99-9, Tetrahydrofuran, uses
110-71-4, 1, 2-Dimethoxyethane 623-53-0, Ethyl methyl carbonate
4437-85-8, Butylene carbonate 9000-11-7, Carboxymethyl cellulose
13436-45-8, 2-Methoxytetrahydrofuran 90076-65-6, Lithium
bis(trifluoromethanesulfonyl)imide 132843-44-8 154838-53-6,
Aluminum cobalt lithium oxide 198213-59-1, Aluminum cobalt
lithium oxide (Al0.05Co0.95LiO2) 253868-42-7, Cobalt lithium
magnesium titanium oxide 265652-42-4, Aluminum cobalt lithium
oxide (Al0.03Co0.97LiO2) 345664-05-3, Aluminum cobalt lithium
oxide (Al0.01Co0.99LiO2) 642999-49-3, Aluminum cobalt lithium
magnesium oxide 678159-00-7, Aluminum cobalt lithium zirconium
oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(non-aqueous electrolyte secondary
cell)
IT 872-50-4, n-2-Methyl-pyrrolidone, uses 198213-70-6, Cobalt
lithium magnesium oxide (Co0.98LiMg0.02O2) 253875-50-2, Cobalt
lithium titanium oxide (Co0.98LiTi0.02O2) 459409-01-9, Aluminum
cobalt lithium oxide (Al0.02Co0.98LiO2) 756879-33-1
867249-18-1, Cobalt lithium zirconium oxide (Co0.98LiZr0.02O2)
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. electrode component; non-
aqueous electrolyte secondary cell)
IT 7440-44-0, Carbon, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(powder, pos. electrode component;
non-aqueous electrolyte secondary cell)
IT 9003-55-8
RL: TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, binder, neg.
electrode component; non-aqueous
electrolyte secondary cell)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L60 ANSWER 4 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:316956 HCAPLUS Full-text
DOCUMENT NUMBER: 148:335039
TITLE: Fluorinated cathode active material and its manufacture for cathode and secondary nonaqueous electrolyte battery
INVENTOR(S): Morita, Koji; Yamaguchi, Hiroyuki; Nakai, Hideki; Isakane, Masayoshi
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 23pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008060033	A	20080313	JP 2006-238791	2006 0904

PRIORITY APPLN. INFO.: JP 2006-238791
2006
0904

ED Entered STN: 13 Mar 2008

AB The active material is a mixed metal oxide particle having average composition represented as LipNi(1-q-r)MnqM1rO(2-y)Xz (M1 = Group 2-15 elements except Ni and Mn; X = F; p = 0-1.5; q = 0-1.0; r = 0-1.0; y = -0.10 to 0.20; 0 < z ≤ 0.2) and peak intensity ratio of LiMeF+/LiMeO+ (Me = Group 2-15 elements) at the particle cross section 0.01-0.3 by TOF-SIMS, where LiMeF+ exists at center of the particle. The mixed metal oxide particle is manufactured by fluorination under high temperature of an oxide particle represented as LipNi(1-q-r)MnqM1rO(2-y) (M1 = Group 2-15 elements except Ni and Mn; p = 0-1.5; q = 0-1.0; r = 0-1.0; y = -0.10 to 0.20) or Li(1+p)Co(1-q)MqO(2-y) (M = Group 2-15 elements except Co; p = -0.10 to 0.10; 0 ≤ q < 0.3; y = -0.10 to 0.20). The secondary battery equipped with a cathode containing the active material provides long cycle life.

IT 346417-97-8DP, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2), fluorinated 372492-00-7DP, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2), fluorinated
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of fluorinated cathode active material for cathode and secondary nonaq. electrolyte battery)

RN 346417-97-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST fluorination cathode active material secondary nonaq electrolyte battery; cobalt lithium manganese nickel oxide fluoride cathode secondary battery

IT Secondary batteries
(lithium; manufacture of fluorinated cathode active material for cathode and secondary nonaq. electrolyte battery)

IT Battery cathodes
Fluorination
(manufacture of fluorinated cathode active material for cathode and secondary nonaq. electrolyte battery)

IT 7782-41-4, Fluorine, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorination by; manufacture of fluorinated cathode active material for cathode and secondary nonaq. electrolyte battery)

IT 160151-99-5DP, Cobalt lithium oxide (CoLi1.03O2), fluorinated 346417-97-8DP, Cobalt lithium manganese nickel oxide (Co0.33Li0.33Mn0.33Ni0.33O2), fluorinated 372492-00-7DP, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2), fluorinated
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of fluorinated cathode active material for cathode and secondary nonaq. electrolyte battery)

L60 ANSWER 5 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:156107 HCAPLUS Full-text
DOCUMENT NUMBER: 148:195375
TITLE: Nonaqueous electrolyte secondary batteries and method for their charging
INVENTOR(S): Kinoshita, Akira; Hasegawa, Kazuhiro; Kuwahara, Tatsuyuki; Fujimoto, Hiroyuki; Nakane, Ikuro
PATENT ASSIGNEE(S): SANYO Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008027833	A	20080207	JP 2006-201625	2006 0725
PRIORITY APPLN. INFO.:			JP 2006-201625	2006 0725

ED Entered STN: 07 Feb 2008
AB The title batteries comprise Li cobaltate-based cathode, anodes free of metallic Li, and a nonaq. electrolyte containing heterocyclic compds. having unsatd. bonding groups and the charge volume capacity of the anode against cathode is 1.0-1.2, on charging to cathode potential of 4.4-4.5 V (vs. Li/Li+).
IT 12190-79-3P, Cobalt lithium oxide (CoLiO2) 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active material; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IT 872-36-6P, Vinylene carbonate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charging of nonaq. electrolyte secondary batteries having excellent charge retention)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery lithium cobaltate cathode; unsatd heterocycle electrolyte secondary battery
IT Secondary batteries
(lithium; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT Battery electrolytes
(nonaq.; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT Heterocyclic compounds
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(unsatd.; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT 7782-42-5P, Graphite, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(anode active material; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT 12190-79-3P, Cobalt lithium oxide (CoLiO2)
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active material; charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT 872-36-6P, Vinylene carbonate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(charging of nonaq. electrolyte secondary batteries having excellent charge retention)
IT 100-69-6P, 2-Vinylpyridine 30285-10-0P 30917-44-3P
31093-57-9P, Vinyl furan 31094-04-9P 159242-25-8P
1004531-49-0P
RL: IMF (Industrial manufacture); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)
(electrolyte; charging of nonaq. electrolyte secondary batteries having excellent charge retention)

L60 ANSWER 6 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:95501 HCAPLUS Full-text
DOCUMENT NUMBER: 148:172194
TITLE: Nonaqueous electrolyte secondary batteries using organolithium electrolytes and polymer separators
INVENTOR(S): Obana, Yoshiaki; Saito, Midori; Murakami, Takashi; Ogawa, Kenichi; Akashi, Hiroyuki
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 26pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008016414	A	20080124	JP 2006-189303	2006 0710
PRIORITY APPLN. INFO.:			JP 2006-189303	2006 0710

ED Entered STN: 24 Jan 2008
AB The batteries, e.g., secondary lithium batteries, show open-circuit voltage 4.25-4.55V in a fully charged state, and have nonaq. electrolyte compns. containing organolithium salts bearing carbonyl or sulfonyl groups bonded to B via O, preferably Li bis(oxalato)borate, Li difluorooxalatoborate. Furthermore, cathode side of separators comprise polypropylene (I), PTFE (II), and/or poly(vinylidene fluoride) (III). Preferably, the batteries are characterized by (1) the separators comprise polyolefin porous film substrate layers and cathode-side surface layers comprising I, II, and/or III, (2) the electrolyte compns. contain vinylene carbonate, or (3) cathode active mass are represented by LiaCol-bMlbO2-c or LiwNixCoyMnzM2l-x-y-zO2-v (Ml, M2 = V, Cu, Zr, Zn, Mg, Al, Ga, Y, Fe; a = 0.9-1.1; b = 0-0.3,; -0.1 ≤ c ≤ 0.1; -0.1 ≤ v ≤ 0.1; w = 0.9-1.1; 0 < x < 1; 0 < y < 1; 0 < z < 0.5; 0 < 1 - x - y - z < 1). The batteries show high charge-discharge capacity and high capacity retention after storage at high temperature
IT 193215-53-1P, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active mass; nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
RN 193215-53-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.2	7440-48-4
Ni	0.5	7440-02-0
Mn	0.3	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

IT 872-36-6, Vinylene carbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytic solution; nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery lithium oxalatoborate electrolyte; battery electrolyte lithium fluorooxalatoborate; polypropylene separator lithium battery; PTFE separator lithium battery; polytetrafluoroethylene separator lithium battery; polyvinylidene fluoride separator lithium battery
IT Secondary batteries
(lithium; nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT Battery cathodes
Battery electrolytes
Secondary battery separators
(nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT Polyolefins
RL: TEM (Technical or engineered material use); USES (Uses)
(porous film substrates of separators; nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT 193215-53-1P, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active mass; nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT 872-36-6, Vinylene carbonate

RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytic solution; nonaq. electrolyte secondary batteries
using organolithium electrolytes and polymer separators)
IT 9002-84-0, Polytetrafluoroethylene 9003-07-0, Polypropylene
24937-79-9, Poly(vinylidene fluoride) 244761-29-3 409071-16-5
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolyte secondary batteries using organolithium electrolytes and polymer separators)
IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(porous film substrate of separator; nonaq. electrolyte secondary batteries
using organolithium electrolytes and polymer separators)

L60 ANSWER 7 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:64504 HCAPLUS Full-text
DOCUMENT NUMBER: 148:148459
TITLE: Lithium mixed oxide cathode active mass for nonaqueous electrolyte batteries
INVENTOR(S): Morita, Koji; Kudo, Yoshihiro; Hosoya, Yosuke
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 24pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008010234	A	20080117	JP 2006-177656	2006 0628
PRIORITY APPLN. INFO.:			JP 2006-177656	2006 0628

ED Entered STN: 17 Jan 2008
AB The cathode active mass satisfies, in x ray absorption peak at oxygen K-edge of 526-534 eV measured by XAFS when standardized in a prescribed way (definition is given), (1) ratio of integrated intensity at 4.65 V-charged state to integrated intensity at discharged state ≥1.4 or (2) deduction of absorption edge energy, determined by energy giving half value of peak top intensity on the lower energy side, at discharged state from at 4.45-4.65 V-charged state ≤-0.7 eV. The cathode active mass prevents reaction with electrolyte solns. at interface and improves charge discharge cycle efficiency of nonaq. electrolyte batteries.
IT 12190-79-3, Lithium cobalt oxide (LiCoO2)
372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(base material; lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4

```
Li              |          1          |        7439-93-2

RN   372492-00-7  HCAPLUS
CN   Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
     (CA INDEX NAME)

  Component   |       Ratio         |     Component
              |                     |  Registry Number
==============+=====================+====================
O             |          2          |       17778-80-2
Co            |        0.98         |        7440-48-4
Mg            |        0.01         |        7439-95-4
Li            |          1          |        7439-93-2
Al            |        0.01         |        7429-90-5

IT   193215-53-1P, Cobalt lithium manganese nickel oxide
     (Co0.2LiMn0.3Ni0.5O2) 783337-14-4P, Cobalt lithium
     manganese nickel oxide (Co0.66LiMn0.17Ni0.17O2)
     1001160-49-1P, Cobalt lithium manganese nickel oxide
     (Co0.91LiMn0.05Ni0.05O2) 1001160-52-6P, Cobalt lithium
     manganese nickel oxide (Co0.91LiMn0.02Ni0.07O2)
     RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
     or engineered material use); PREP (Preparation); USES (Uses)
        (cathode active mass; lithium mixed oxide
        cathode active mass for nonaq.
        electrolyte batteries)
RN   193215-53-1  HCAPLUS
CN   Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2)  (CA
     INDEX NAME)

  Component   |       Ratio         |     Component
              |                     |  Registry Number
==============+=====================+====================
O             |          2          |       17778-80-2
Co            |        0.2          |        7440-48-4
Ni            |        0.5          |        7440-02-0
Mn            |        0.3          |        7439-96-5
Li            |          1          |        7439-93-2

RN   783337-14-4  HCAPLUS
CN   Cobalt lithium manganese nickel oxide (Co0.66LiMn0.17Ni0.17O2)
     (CA INDEX NAME)

  Component   |       Ratio         |     Component
              |                     |  Registry Number
==============+=====================+====================
O             |          2          |       17778-80-2
Co            |        0.66         |        7440-48-4
Ni            |        0.17         |        7440-02-0
Mn            |        0.17         |        7439-96-5
Li            |          1          |        7439-93-2

RN   1001160-49-1  HCAPLUS
CN   Cobalt lithium manganese nickel oxide (Co0.91LiMn0.05Ni0.05O2)
     (CA INDEX NAME)

  Component   |       Ratio         |     Component
              |                     |  Registry Number
==============+=====================+====================
O             |          2          |       17778-80-2
Co            |        0.91         |        7440-48-4
Ni            |        0.05         |        7440-02-0
Mn            |        0.05         |        7439-96-5
Li            |          1          |        7439-93-2

RN   1001160-52-6  HCAPLUS
CN   Cobalt lithium manganese nickel oxide (Co0.91LiMn0.02Ni0.07O2)
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(CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.91	7440-48-4
Ni	0.07	7440-02-0
Mn	0.02	7439-96-5
Li	1	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 57
ST lithium mixed oxide cathode active mass; nonaq electrolyte battery cathode x ray absorption; cobalt lithium oxide nickel manganese cathode
IT Battery cathodes
(lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)
IT Secondary batteries
(lithium; lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)
IT 12190-79-3, Lithium cobalt oxide (LiCoO2) 160151-99-5, Cobalt lithium oxide (CoLi1.03O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 915275-62-6, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98Li1.03Mg0.01O2)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(base material; lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)
IT 193215-53-1P, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 783337-14-4P, Cobalt lithium manganese nickel oxide (Co0.66LiMn0.17Ni0.17O2) 1001160-49-1P, Cobalt lithium manganese nickel oxide (Co0.91LiMn0.05Ni0.05O2) 1001160-51-5P 1001160-52-6P, Cobalt lithium manganese nickel oxide (Co0.91LiMn0.02Ni0.07O2) 1001160-53-7P 1001160-54-8P 1001160-55-9P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active mass; lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)
IT 7789-24-4, Lithium fluoride, uses 875479-77-9, Lithium manganese nickel oxide (Li1.08Mn0.5Ni0.5O2) 916329-55-0, Lithium manganese nickel oxide (Li1.08Mn0.2Ni0.8O2)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(cover material; lithium mixed oxide cathode active mass for nonaq. electrolyte batteries)

L60 ANSWER 8 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:1178522 HCAPLUS Full-text
DOCUMENT NUMBER: 147:472119
TITLE: Secondary nonaqueous electrolyte battery
INVENTOR(S): Nishida, Nobumichi
PATENT ASSIGNEE(S): SANYO Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007273260	A	20071018	JP 2006-97602	2006 0331
PRIORITY APPLN. INFO.:			JP 2006-97602	2006 0331

ED Entered STN: 19 Oct 2007

AB The battery has a cathode containing a cathode active mass, an anode containing an anode active mass, and a nonaq. electroltye solution containing a nonaq. solvent and an electroltye salt; where the charging voltage of the cathode is 4.4-5.1 V on lithium basis, the electroltye solution further has a compound which reacts with the anode active mass and forms a coating; and the battery is prepared by repeatedly ≥1 time charging the battery until the potential of the cathode becomes 3.0-4.3 V and discharging until the potential of the cathode becomes 2.8-3.1V, and again charging until the potential of the cathode becomes ≥ 4.4 V.

IT 532934-38-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: MOA (Modifier or additive use); USES (Uses)
(structure and manufacture of secondary lithium batteries)

RN 532934-38-6 HCAPLUS

CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 642999-33-5 HCAPLUS

CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Methyl ethyl carbonate 872-36-6, Vinylene carbonate 7782-42-5, Graphite, uses 21324-40-3, Lithium hexafluorophosphate 532934-38-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: MOA (Modifier or additive use); USES (Uses)
(structure and manufacture of secondary lithium batteries)

L60 ANSWER 9 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1060515 HCAPLUS Full-text

DOCUMENT NUMBER: 147:347219

TITLE: Secondary batteries suppressing swelling on high-temperature storage and nonaqueous electrolytes therefor

INVENTOR(S): Yamashita, Noriko; Iwanaga, Masato; Abe, Koji;

Miyoshi, Kazuhiro
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan; Ube Industries, Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 10pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007242464	A	20070920	JP 2006-64400	2006 0309
PRIORITY APPLN. INFO.:			JP 2006-64400	2006 0309

OTHER SOURCE(S): MARPAT 147:347219
ED Entered STN: 21 Sep 2007
AB The title batteries satisfy cathode potential (Li standard) 4.4-5.1 V and have nonaq. electrolytes (also claimed) containing R1OCOC.tplbond.CCO2R2 (R1, R2 = alkyl). The batteries may have cathode active masses containing Zr- and Mg-added Li cobaltates and Li Ni Mn complex oxides with layered structure. The batteries exhibit improved overcharge safety.
IT 182442-95-1P, Cobalt lithium manganese nickel oxide
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active mass; nonaq. electrolyte secondary batteries containing dialkyl acetylenedicarboxylates to suppress high-temperature swelling)
RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 182442-95-1P, Cobalt lithium manganese nickel oxide
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode active mass; nonaq. electrolyte secondary batteries containing dialkyl acetylenedicarboxylates to suppress high-temperature swelling)

L60 ANSWER 10 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:819603 HCAPLUS Full-text
DOCUMENT NUMBER: 147:215670
TITLE: Nonaqueous electrolyte secondary battery, nonaqueous electrolyte, and charging method therefor
INVENTOR(S): Iwanaga, Masato; Oki, Yukihiro; Abe, Koji; Miyoshi, Kazuhiro
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan; Ube Industries Ltd.
SOURCE: U.S. Pat. Appl. Publ., 10pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070172730	A1	20070726	US 2007-656486	20070123
JP 2007200688	A	20070809	JP 2006-17286	20060126
CN 101009391	A	20070801	CN 2007-10001454	20070108
KR 2007078371	A	20070731	KR 2007-3840	20070112
PRIORITY APPLN. INFO.:			JP 2006-17286 A	20060126

ED Entered STN: 27 Jul 2007
AB A nonaq. electrolyte secondary battery of the invention has a pos. electrode having a pos. electrode active material, a neg. electrode, and a nonaq. electrolyte having electrolyte salt in a nonaq. solvent. The elec. potential of the pos. electrode active material is 4.4 to 4.6 V relative to lithium, and the nonaq. electrolyte contains pentafluorophenol methanesulfonate. The quantity of compound added is preferably 0.1% to 2% by mass. Also, the pos. electrode active material preferably comprises a mixture of a lithium-cobalt composite oxide which is LiCoO2 containing at least both zirconium and magnesium and a lithium-manganese-nickel composite oxide that has a layer structure and contains at least both manganese and nickel. Thanks to such structure, a nonaq. electrolyte secondary battery can be provided that is charged to charging termination potential of 4.4 to 4.6 V relative to lithium and that has enhanced overcharging safety.
IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery, nonaq. electrolyte, and charging method therefor)
RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

IT 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolyte secondary battery, nonaq. electrolyte, and charging method therefor)
RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

INCL -429; -429; 429231300; -429; -429; -429; -429; -320
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 532934-78-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery, nonaq. electrolyte, and charging method therefor)
IT 96-49-1, Ethylene carbonate 105-58-8, DiEthyl carbonate 623-53-0, Ethyl methyl carbonate 21324-40-3, Lithium hexafluorophosphate 162684-16-4, Lithium manganese nickel oxide 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(nonaq. electrolyte secondary battery, nonaq. electrolyte, and charging method therefor)

L60 ANSWER 11 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:671079 HCAPLUS Full-text
DOCUMENT NUMBER: 147:75912
TITLE: Secondary nonaqueous electrolyte battery
INVENTOR(S): Obana, Yoshiaki; Akashi, Hiroyuki
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007157458	A	20070621	JP 2005-350010	2005 1202
PRIORITY APPLN. INFO.:			JP 2005-350010	2005 1202

ED Entered STN: 21 Jun 2007
AB The battery has an electrode group containing a separator between a cathode and an anode and a nonaq. electrolyte solution, and possesses an open circuit voltage 4.30-4.55 V in a full-charged state per electrode pair; where the electrolyte solution contains vinylene carbonate, and the amount of the electrolyte solution is 80-95% of the saturated electrolyte solution saturatedly adsorbed to the electrode group.
IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(structure of secondary lithium batteries having vinylene carbonate contained

electrolyte solns.)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

IT 193215-53-1, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: TEM (Technical or engineered material use); USES (Uses)
(structure of secondary lithium batteries having vinylene carbonate contained electrolyte solns.)
RN 193215-53-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.2	7440-48-4
Ni	0.5	7440-02-0
Mn	0.3	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery electrolyte vinylene carbonate
IT Secondary batteries
(structure of secondary lithium batteries having porous F-containing polymers between cathodes and separators)
IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(structure of secondary lithium batteries having vinylene carbonate contained electrolyte solns.)
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Methyl ethyl carbonate 7782-42-5, Graphite, uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene 21324-40-3, Lithium hexafluorophosphate 193215-53-1, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: TEM (Technical or engineered material use); USES (Uses)
(structure of secondary lithium batteries having vinylene carbonate contained electrolyte solns.)

L60 ANSWER 12 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:435178 HCAPLUS Full-text
DOCUMENT NUMBER: 146:444865
TITLE: Secondary battery
INVENTOR(S): Morita, Koji; Li, Guohua; Morita, Nozomu; Murakami, Takashi; Azuma, Hideto
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 22pp. CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007103306	A	20070419	JP 2005-295358	2005 1007
PRIORITY APPLN. INFO.:			JP 2005-295358	2005 1007

ED Entered STN: 20 Apr 2007
AB The battery comprises a cathode having a cathode active mass layer which contains a Li-Co composite oxide , an anode, and an electrolyte solution, and has an open circuit voltage ≥4.25 V in the completely charged state per electrode pair; where after charging a test battery which is prepared by placing 2 test separators sandwiching the cathode as a test cathode and a test anode facing the cathode, the amount of the metal component deposits (excluding Li), which is deposited on the test anode or on the test separator of the anode side electrode at a ratio per unit mass of the metal component (excluding Li) which is contained in the cathode active material layer opposed to the test cathode of the test anode electrode, is ≤ 2000 mass ppm.
IT 787635-98-7, Cobalt lithium manganese nickel oxide (Co0.2Li1.08Mn0.3Ni0.5O2)
RL: MOA (Modifier or additive use); USES (Uses)
(cathodes containing Li-Co composite oxides for secondary batteries)
RN 787635-98-7 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.2Li1.08Mn0.3Ni0.5O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.2	7440-48-4
Ni	0.5	7440-02-0
Mn	0.3	7439-96-5
Li	1.08	7439-93-2

IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 372492-60-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathodes containing Li-Co composite oxides for secondary batteries)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number

O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

RN 346417-97-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery secondary cathode
lithium cobalt composite oxide
IT Battery cathodes
Secondary batteries
(cathodes containing Li-Co composite oxides for secondary batteries)
IT 787635-98-7, Cobalt lithium manganese nickel oxide (Co0.2Li1.08Mn0.3Ni0.5O2) 875479-77-9, Lithium manganese nickel oxide (Li1.08Mn0.5Ni0.5O2) 916329-55-0, Lithium manganese nickel oxide (Li1.08Mn0.2Ni0.8O2)
RL: MOA (Modifier or additive use); USES (Uses)
(cathodes containing Li-Co composite oxides for secondary batteries)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 7782-42-5, Graphite, uses 12190-79-3, Cobalt lithium oxide (CoLiO2) 21324-40-3, Lithium hexafluorophosphate 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 916329-48-1, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98Li1.03Mg0.01O2.02) 916329-50-5, Cobalt lithium zirconium oxide (Co0.98Li1.03Zr0.02O2.02)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathodes containing Li-Co composite oxides for secondary batteries)

L60 ANSWER 13 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:175008 HCAPLUS Full-text
DOCUMENT NUMBER: 146:232777
TITLE: Cathode material for lithium secondary batteries with non-aqueous electrolyte
INVENTOR(S): Kitao, Hideki; Kida, Yoshinori; Shimizu, Noriyuki
PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 8pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070037056	A1	20070215	US 2006-501224	2006 0809
JP 2007073487	A	20070322	JP 2005-278108	2005 0926
KR 2007019581	A	20070215	KR 2006-75719	2006 0810
CN 1913211	A	20070214	CN 2006-10109780	2006 0811
PRIORITY APPLN. INFO.:			JP 2005-233528 A	2005 0811
			JP 2005-278108 A	2005 0926

ED Entered STN: 16 Feb 2007
AB This secondary battery contains a cathode-active material which consists of a mixture of a Li-containing transition metal oxide with Ni and Mn as transition metals and having a crystal structure belonging to the space group R3m. The cathode material also contains a 2nd Li-containing transition metal oxide with Ni, Co, and Mn as transition metals and having a crystal structure belonging to the space group R3m, or a mixture of the 1st Li-containing transition metal oxide and a Li Co oxide. The 1st Li-containing transition metal oxide is LiaNixMnyO2 with 1≤a≤1.5, 0.5≤x+y≤1, 0<x<1, and 0<y<1. The 2nd Li-containing transition metal oxide is LibNipMnqCorO2 with 1≤b≤1.5, 0.5≤p+q+r≤1, 0<p<1, 0<q<1, and 0<r<1.
IT 924888-60-8P, Cobalt lithium manganese nickel oxide (Co0.3Li1.15Mn0.3Ni0.4O2)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode material for lithium secondary batteries with non-aqueous electrolyte)
RN 924888-60-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.3Li1.15Mn0.3Ni0.4O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.3	7440-48-4
Ni	0.4	7440-02-0
Mn	0.3	7439-96-5
Li	1.15	7439-93-2

IT 182442-95-1, Cobalt lithium manganese nickel oxide
477700-15-9, Cobalt lithium oxide (Co0.99LiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode material for lithium secondary batteries with non-aqueous electrolyte)

RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

INCL 429231100; 429223000; 429224000; 429231300
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery cathode
IT Battery cathodes
(cathode material for lithium secondary batteries with non-aqueous electrolyte)
IT Secondary batteries
(lithium; cathode material for lithium secondary batteries with non-aqueous electrolyte)
IT 144973-40-0P, Lithium manganese nickel oxide (Li1.1Mn0.5Ni0.5O2) 924888-60-8P, Cobalt lithium manganese nickel oxide (Co0.3Li1.15Mn0.3Ni0.4O2)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode material for lithium secondary batteries with non-aqueous electrolyte)
IT 924888-62-0P, Lithium manganese nickel oxide (Li1.3Mn0.6Ni0.1O2)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(cathode material for lithium secondary batteries with non-aqueous electrolyte)
IT 162684-16-4, Lithium manganese nickel oxide 182442-95-1, Cobalt lithium manganese nickel oxide 477700-15-5, Cobalt lithium oxide (Co0.99LiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode material for lithium secondary batteries with non-aqueous electrolyte)

L60 ANSWER 14 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:170143 HCAPLUS Full-text
DOCUMENT NUMBER: 146:232710
TITLE: Secondary lithium batteries using two kinds of cathode active mass
INVENTOR(S): Obana, Yoshiaki; Ogawa, Kenichi; Hara, Tomitato; Kajita, Atsushi; Akashi, Hiroyuki
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007042302	A	20070215	JP 2005-222037	2005 0729
PRIORITY APPLN. INFO.:			JP 2005-222037	2005 0729

ED Entered STN: 15 Feb 2007
AB In the batteries, cathodes active mas contain LiaCol-bMlbO2-c (Ml = Mn, Ni, Mg, Al, B, Ti, V, Cr, Fe, Cu, Zn, Ga, Y, Zr, Nb, Mo, Sn, Ca, Sr, W; a = 0.9-1.1; b = 0-0.3, -0.1 ≤ c ≤ 0.1) and LiwNixCoyMnzM2l-x-y-zO2-v [M2 = Mg, Al, B, Ti, V, Cr, Fe, Cu, Zn, Ga, Y, Zr, Nb, Mo, Sn, Ca, Sr, W; -0.1 ≤ v ≤ 0.1; w = 0.9-1.1; 0 < x < 1; 0 < y < 0.7; 0 < z < 0.5; 0 ≤ (1 - x - y - z) ≤ 0.2]. The batteries have open circuit voltage 4.25-6.00 V per one pair of cathode and anode in a completely charged state. Preferably, the batteries have anodes containing carbonaceous active mass, and at least part of separators on the cathode side comprise poly(vinylidene fluoride) and/or polypropylene. The batteries show high energy d. and charge-discharge efficiency.
IT 193215-53-1P, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 346417-97-8P, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(secondary lithium batteries using two kinds of cathode active mass with high energy d. and charge-discharge efficiency)
RN 193215-53-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.2	7440-48-4
Ni	0.5	7440-02-0
Mn	0.3	7439-96-5
Li	1	7439-93-2

RN 346417-97-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number

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O            |         2          |       17778-80-2
Co           |        0.98        |        7440-48-4
Mg           |        0.01        |        7439-95-4
Li           |         1          |        7439-93-2
Al           |        0.01        |        7429-90-5

CC   52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST   lithium cobalt oxide blend battery cathode;
     battery cathode lithium nickel cobalt
     manganese oxide; cobalt lithium manganese nickel oxide battery
     cathode
IT   Carbon fibers, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (anode active mass; secondary lithium
        batteries using two kinds of cathode active
        mass with high energy d. and charge-discharge efficiency)
IT   Secondary batteries
        (lithium; secondary lithium
        batteries using two kinds of cathode active
        mass with high energy d. and charge-discharge efficiency)
IT   Battery anodes
       Battery cathodes
       Secondary battery separators
        (secondary lithium batteries
        using two kinds of cathode active mass with high
        energy d. and charge-discharge efficiency)
IT   Fluoropolymers, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (secondary lithium batteries
        using two kinds of cathode active mass with high
        energy d. and charge-discharge efficiency)
IT   7782-42-5, Graphite, uses
     RL: TEM (Technical or engineered material use); USES (Uses)
        (anode active mass; secondary lithium
        batteries using two kinds of cathode active
        mass with high energy d. and charge-discharge efficiency)
IT   193215-53-1P, Cobalt lithium manganese nickel oxide
     (Co0.2LiMn0.3Ni0.5O2) 346417-97-8P, Cobalt lithium
     manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2)
     272492-00-7P, Aluminum cobalt lithium magnesium oxide
     (Al0.01Co0.98LiMg0.01O2)
     RL: IMF (Industrial manufacture); TEM (Technical or engineered
     material use); PREP (Preparation); USES (Uses)
        (secondary lithium batteries
        using two kinds of cathode active mass with high
        energy d. and charge-discharge efficiency)
IT   9003-07-0, Polypropylene   24937-79-9, Poly(vinylidene fluoride)
     RL: TEM (Technical or engineered material use); USES (Uses)
        (separator; secondary lithium
        batteries using two kinds of cathode active
        mass with high energy d. and charge-discharge efficiency)

L60  ANSWER 15 OF 34  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2007:117698  HCAPLUS  Full-text
DOCUMENT NUMBER:          146:209722
TITLE:                    Battery
INVENTOR(S):              Obana, Yoshiaki; Tokunaga, Takashi; Akashi,
                          Hiroyuki
PATENT ASSIGNEE(S):       Sony Corporation, Japan
SOURCE:                   U.S. Pat. Appl. Publ., 21pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070026311	A1	20070201	US 2006-459514	20060724
JP 2007059379	A	20070308	JP 2006-141036	20060522
KR 2007015059	A	20070201	KR 2006-71264	20060728
CN 1917276	A	20070221	CN 2006-10136308	20060731
PRIORITY APPLN. INFO.:			JP 2005-222195	A 20050729
			JP 2006-141036	A 20060522

ED Entered STN: 02 Feb 2007

AB A battery capable of improving the charge and discharge efficiency even when the battery voltage is set to over 4.2 V is provided. A cathode and an anode are oppositely arranged with an electrolyte and a separator in between. The open circuit voltage in full charge is in the range from 4.25 V to 6.00 V. The cathode has a cathode current collector and a cathode active material layer provided on the cathode current collector. The cathode active material layer contains, as a binder, a polymer with intrinsic viscosity of 2.0 dL/g to 10 dL/g which contains vinylidene fluoride as an element.

IT 193215-53-1P, Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery with cathode containing binder)

RN 193215-53-1 HCAPLUS

CN Cobalt lithium manganese nickel oxide (Co0.2LiMn0.3Ni0.5O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.2	7440-48-4
Ni	0.5	7440-02-0
Mn	0.3	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS

CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

IT 872-36-6, Vinylene carbonate 246417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 568847-82-4

RL: TEM (Technical or engineered material use); USES (Uses)
(battery with cathode containing binder)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

RN 346417-97-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2)
(CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 868842-82-4 HCAPLUS
CN Aluminum cobalt lithium magnesium zirconium oxide
(Al0.01Co0.97LiMg0.01Zr0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Zr	0.01	7440-67-7
Co	0.97	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

INCL 429217000; 429231300; 429223000; 429221000; 429231500; 429220000;
429229000; 429231600; 429338000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery cathode
IT Battery cathodes
(battery with cathode containing binder)
IT Carbonaceous materials (technological products)
Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(battery with cathode containing binder)
IT Secondary batteries
(lithium; battery with cathode containing binder)
IT 193215-52-1P, Cobalt lithium manganese nickel oxide
(Co0.2LiMn0.3Ni0.5O2) 372492-06-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(battery with cathode containing binder)
IT 872-36-6, Vinylene carbonate 9002-88-4, Polyethylene 9003-07-0, Polypropylene 24937-79-9, Polyvinylidene fluoride 37323-13-0, Chromium cobalt lithium oxide 104245-03-6, Cobalt lithium zinc oxide 116713-67-8, Cobalt lithium titanium oxide 120479-28-9, Cobalt copper lithium oxide 131344-56-4, Cobalt lithium nickel oxide 146956-50-5, Cobalt lithium vanadium oxide 147683-99-6, Cobalt lithium zirconium oxide

149087-95-6, Cobalt lithium tin oxide 152654-50-7, Cobalt iron lithium oxide 154838-53-6, Aluminum cobalt lithium oxide 186298-15-7 186298-17-9 186298-22-6 187144-47-4, Calcium cobalt lithium oxide 187144-48-5, Cobalt lithium magnesium oxide 214536-41-1, Cobalt lithium manganese oxide 253875-52-4, Cobalt lithium niobium oxide 253875-55-7, Cobalt lithium strontium oxide 326895-11-8, Cobalt lithium yttrium oxide 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 350580-22-2, Cobalt lithium tungsten oxide 382151-87-3, Boron cobalt lithium oxide 478037-17-1 483965-60-2, Cobalt gallium lithium oxide 656812-56-5, Cobalt lithium molybdenum oxide 824957-50-8 824957-51-9 855998-69-5 855998-70-8 855998-71-9 855998-72-0 863498-38-8 864452-44-8 868542-82-4 897031-15-1 897031-16-2 897031-18-4 922733-62-8 922733-63-9 922733-64-0
RL: TEM (Technical or engineered material use); USES (Uses)
(battery with cathode containing binder)

L60 ANSWER 16 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:1094429 HCAPLUS Full-text
DOCUMENT NUMBER: 145:401049
TITLE: Secondary batteries containing lithium tetrafluoroborate in nonaqueous electrolytes, and method for charging the batteries
INVENTOR(S): Tsutsumi, Shuji; Iwanaga, Masato; Oga, Keisuke; Nishida, Nobumichi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006286382	A	20061019	JP 2005-104283	2005 0331
PRIORITY APPLN. INFO.:			JP 2005-104283	2005 0331

ED Entered STN: 20 Oct 2006
AB The batteries have cathode active mass with potential (based on Li) 4.4-4.6 V containing Zr- and Mg-containing LiCoO2 and layered Li Mn Ni mixed oxides, and 0.05-1.5% (based on weight of nonaq. electrolytes) LiBF4 in nonaq. electrolytes. The batteries show improved cycle efficiency and reduced swelling.
IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active mass; secondary batteries containing lithium tetrafluoroborate in nonaq. electrolytes)
RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2

Co	0.34		7440-48-4
Ni	0.33		7440-02-0
Mn	0.33		7439-96-5
Li	1		7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active mass; secondary batteries containing lithium tetrafluoroborate in nonaq. electrolytes)

L60 ANSWER 17 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:1094404 HCAPLUS Full-text
DOCUMENT NUMBER: 145:401047
TITLE: Secondary nonaqueous electrolyte batteries bonded with pressure-sensitive adhesive tapes, and method for charging the batteries
INVENTOR(S): Obayashi, Atsushi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006286337	A	20061019	JP 2005-103173	2005 0331
PRIORITY APPLN. INFO.:			JP 2005-103173	2005 0331

ED Entered STN: 20 Oct 2006
AB The batteries have cathode active mass with potential (based on Li) 4.4-4.6 V containing (A) Zr- and Mg-containing Li Co mixed oxides and (B) layered Li Ni Mn mixed oxides, and pressure-sensitive adhesive tapes composed of substrate layers and rubber adhesive layers for protection, insulation, or prevention of unwinding of electrodes. The batteries have cathode active mass with improved thermal stability at high potential, and show improved safety and cycle efficiency.
IT 182442-95-1P, Cobalt lithium manganese nickel oxide 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active mass; secondary nonaq. electrolyte batteries bonded with pressure-sensitive adhesive tapes)
RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 182442-95-1P, Cobalt lithium manganese nickel oxide
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active mass; secondary nonaq. electrolyte batteries bonded with pressure-sensitive adhesive tapes)

L60 ANSWER 18 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:1094402 HCAPLUS Full-text
DOCUMENT NUMBER: 145:401046
TITLE: Secondary nonaqueous electrolyte batteries having cathode active mass with controlled size and shape, and method for charging the batteries
INVENTOR(S): Inoue, Hidetoshi; Nishida, Nobumichi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006286336	A	20061019	JP 2005-103172	20050331
PRIORITY APPLN. INFO.:			JP 2005-103172	20050331

ED Entered STN: 20 Oct 2006
AB The batteries have cathode active mass with potential (based on Li) 4.4-4.6 V containing (A) Zr- and Mg-containing Li Co mixed oxides with average particle size (X) 7-30 μm, and (B) layered Li Ni Mn mixed oxides having average particle size (Y) 2-15 μm and aggregated spherical or elliptical shapes with ratio of minor axis/major axis 0.80-1.0, satisfying X/Y = 1.4-15. The batteries have cathode active mass with improved thermal stability at high potential, and show improved safety and cycle efficiency.
IT 182442-95-1P, Cobalt lithium manganese nickel oxide
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(cathode active mass; secondary nonaq. electrolyte batteries having cathode active mass with controlled size and shape)

RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 182442-95-1P, Cobalt lithium manganese nickel oxide
642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active mass; secondary nonaq. electrolyte batteries having cathode active mass with controlled size and shape)

L60 ANSWER 19 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:1038921 HCAPLUS Full-text
DOCUMENT NUMBER: 145:380403
TITLE: Battery
INVENTOR(S): Hara, Tomitaro; Akashi, Hiroyuki; Ogawa, Kenichi; Obana, Yoshiaki; Hosoya, Yosuke
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 15pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060222957	A1	20061005	US 2006-278576	2006 0404
JP 2006313719	A	20061116	JP 2005-222038	2005 0729
KR 2006106887	A	20061012	KR 2006-30077	2006 0403
CN 1848512	A	20061018	CN 2006-10074018	2006 0404
PRIORITY APPLN. INFO.:			JP 2005-107784 A	2005 0404

JP 2005-222038 A
2005
0729

ED Entered STN: 06 Oct 2006
AB A battery capable of improving the energy d. and improving the cycle characteristics is provided. The battery includes a spirally wound electrode body, in which a cathode and an anode are wound with a separator and an electrolyte in between. The open circuit voltage in full charge is in the range from 4.25 V to 6.00 V. The electrolyte contains an electrolytic solution and a polymer containing vinylidene fluoride as a component. The polymer containing vinylidene fluoride as a component has high oxidation stability. Therefore, even when the battery voltage is raised, oxidation and decomposition of the electrolyte and the separator can be inhibited.
IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
RL: DEV (Device component use); USES (Uses)
(battery)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IT 346417-97-8P, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(battery)
RN 346417-97-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.33	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

INCL 429316000; 429231950; 429231100; 429224000; 429223000; 429231600; 429231500; 429220000; 429221000; 429229000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST battery secondary
IT Battery cathodes
Battery electrolytes
(battery)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate

9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
12190-79-3, Cobalt lithium oxide (CoLiO2)
21324-40-3, Lithium hexafluorophosphate
RL: DEV (Device component use); USES (Uses)
(battery)

IT 346417-97-8P, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2) 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(battery)

L60 ANSWER 20 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:918270 HCAPLUS Full-text
DOCUMENT NUMBER: 145:274968
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Iwanaga, Masato; Nishida, Nobumichi; Tsutsumi, Shuji
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 9pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060199077	A1	20060907	US 2006-359965	2006 0223
JP 2006236725	A	20060907	JP 2005-48171	2005 0224
KR 2006094477	A	20060829	KR 2006-17530	2006 0223
CN 1825675	A	20060830	CN 2006-10009554	2006 0224
PRIORITY APPLN. INFO.:			JP 2005-48171 A	2005 0224

ED Entered STN: 08 Sep 2006
AB The invention concerns a non-aqueous electrolyte secondary battery with excellent discharge cycle characteristics and a charging termination potential ranging from 4.4 to 4.6 V based on lithium, consisting of a pos. electrode comprising a pos. electrode active material, a neg. electrode, and a non-aqueous electrolyte containing a non-aqueous solvent and an electrolyte salt, in which the pos. electrode active material comprises a mixture of a lithium-cobalt composite oxide containing at least both zirconium and magnesium in LiCoO2, and a lithium-manganese-nickel composite oxide having a layered structure and containing at least both manganese and nickel, and the potential of the pos. electrode active material ranges from 4.4 to 4.6 V based on lithium, and the non-aqueous electrolyte contains at least one of aromatic compds. selected from the group consisting at least of toluene derivs., anisole derivs., biphenyl, cyclohexyl benzene, tert-Bu benzene, tert-amyl benzene, and di-Ph ether.
IT 182442-95-1, Cobalt lithium manganese nickel oxide 332954-28-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)

RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

INCL 429231300; 429231600; 429224000; 429223000; 429326000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery
IT Battery cathodes
Battery electrolytes
Secondary batteries
(nonaq. electrolyte secondary battery)
IT Aromatic compounds
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Ethyl methyl carbonate 162684-16-4, Lithium manganese

nickel oxide 182442-95-1, Cobalt lithium manganese nickel oxide 532934-38-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642599-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)

IT 92-52-4, Biphenyl, uses 98-06-6, tert-Butylbenzene 100-66-3D, Anisole, derivative 101-84-8, Diphenyl ether 108-88-3D, Toluene, derivative 827-52-1, Cyclohexylbenzene 872-36-6, Vinylene carbonate 2049-95-8, tert-Amylbenzene
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)

L60 ANSWER 21 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:890059 HCAPLUS Full-text
DOCUMENT NUMBER: 145:274867
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Ooga, Keisuke; Iwanaga, Masato; Inomata, Hideyuki; Ohshita, Ryuji
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060194111	A1	20060831	US 2006-362225	2006 0227
JP 2006244723	A	20060914	JP 2005-54381	2005 0228
KR 2006095462	A	20060831	KR 2006-15179	2006 0216
CN 1848511	A	20061018	CN 2006-10051464	2006 0228
PRIORITY APPLN. INFO.:			JP 2005-54381 A	2005 0228

ED Entered STN: 01 Sep 2006
AB A non-aqueous electrolyte secondary cell excellent in cycle characteristics is provided. This purpose is achieved by the following structure. A non-aq . electrolyte secondary cell has a pos. electrode having a pos. electrode active material, a neg. electrode having a neg. electrode active material, and a non-aqueous electrolyte having a non-aqueous solvent and an electrolytic salt. The pos. electrode active material has a lithium-cobalt compound oxide having added therein at least zirconium. The non-aqueous electrolyte has LiBF4 at from 0.05 to 1.0 mass% of a total mass of the non-aqueous electrolyte and unsatd. cyclic carbonate at from 1.0 to 4.0 mass%. The true d. ratio of the pos. electrode is 0.72 or greater, the true d. ratio being represented by formula 1 shown below: (Formula 1) True d. ratio=active material apparent d. of electrode active material layer/true d. of active material.
IT 872-36-6, Vinylene carbonate 52627-24-4, Cobalt lithium oxide
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 872-36-6 HCAPLUS

CN 1,3-Dioxol-2-one (CA INDEX NAME)

RN 52627-24-4 HCAPLUS
CN Cobalt lithium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Li	x	7439-93-2

IT 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

INCL 429231300; 429231600
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery
IT Battery cathodes
Secondary batteries
(nonaq. electrolyte secondary battery)
IT Fluoropolymers, uses
Styrene-butadiene rubber, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 7429-90-5, Aluminum, uses 7782-42-5, Graphite, uses 7791-03-9 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 52627-24-4, Cobalt lithium oxide 90076-65-6 132843-44-8
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 98-06-6, tert-Butylbenzene 827-52-1, Cyclohexylbenzene 7439-95-4, Magnesium, uses 7440-44-0, Carbon, uses 7440-67-7, Zirconium, uses 9000-11-7, CMC 24937-79-9, Pvdf

RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)

IT 9003-55-8
RL: MOA (Modifier or additive use); USES (Uses)
(styrene-butadiene rubber; nonaq. electrolyte secondary battery)

L60 ANSWER 22 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:759804 HCAPLUS Full-text
DOCUMENT NUMBER: 145:170774
TITLE: Secondary lithium batteries capable of high-voltage charging, and their charging method
INVENTOR(S): Nakagawa, Hiroshi; Asaoka, Kenji; Imai, Katsuya
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006202529	A	20060803	JP 2005-10417	2005 0118
PRIORITY APPLN. INFO.:			JP 2005-10417	2005 0118

ED Entered STN: 03 Aug 2006
AB The batteries employ cathode active mass which contain mixts. of Zr- and Mg-containing Li Co oxides, and layered Li Mn Ni oxides, and show 4.4-4.6 V potential (vs. Li), and ammonia-released CM-cellulose ammonium salt as anode binder. The batteries are charged at 4.4-4.6 V potential (vs. Li). The batteries show good charge-discharge cycling characteristics.
IT 532934-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(cathode active mass; secondary Li battery with cathode containing Li Co Zr Mg oxide and Li Mn Ni oxide, and CM-cellulose anode binder)
RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number

O	x		17778-80-2
Zr	x		7440-67-7
Co	x		7440-48-4
Mg	x		7439-95-4
Li	x		7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 532931-38-6P, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(cathode active mass; secondary Li battery with cathode containing Li Co Zr Mg oxide and Li Mn Ni oxide, and CM-cellulose anode binder)

L60 ANSWER 23 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:517317 HCAPLUS Full-text
DOCUMENT NUMBER: 145:11312
TITLE: Method of charging nonaqueous electrolyte secondary battery
INVENTOR(S): Nishida, Nobumichi; Inoue, Hidetoshi
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060115733	A1	20060601	US 2005-288355	20051129
JP 2006156230	A	20060615	JP 2004-347187	20041130
KR 2006060559	A	20060605	KR 2005-100878	20051025
CN 1783548	A	20060607	CN 2005-10127178	20051130
PRIORITY APPLN. INFO.:			JP 2004-347187 A	20041130

ED Entered STN: 02 Jun 2006
AB The invention provides a non-aqueous electrolyte secondary cell that has high capacity and excels in cycle characteristics. The non-aqueous electrolyte secondary cell functions stably at a high potential of from 4.4 to 4.6 V with respect to lithium and inhibits the decomposition of the electrolytic solution at high potential. This is accomplished as follows. The non-aqueous electrolyte secondary cell has a pos. electrode having a pos. electrode active material; a neg. electrode having a neg. electrode active material; and a non-aqueous electrolyte having a non-aqueous solvent and electrolytic salt. The pos. electrode active material has: lithium cobalt compound oxide having added therein at least zirconium and magnesium; and lithium-nickel-manganese compound oxide having a layered structure. The pos. electrode active material has a potential of from 4.4 to 4.6 V with respect to lithium. The non-aqueous solvent contains di-Et carbonate of 10 volume% or higher at 25°.
IT 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(method of charging nonaq. electrolyte secondary battery)

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(method of charging nonaq. electrolyte secondary battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

INCL 429231100; 429231300; 429326000; 429332000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery charging method
IT Battery anodes
Battery cathodes
Secondary batteries
(method of charging nonaq. electrolyte secondary battery)
IT Carbonaceous materials (technological products)
RL: DEV (Device component use); USES (Uses)
(method of charging nonaq. electrolyte secondary battery)
IT 887748-06-3, Cobalt manganese nickel hydroxide (Co0.34Mn0.33Ni0.33(OH)2)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(method of charging nonaq. electrolyte secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Ethyl methyl carbonate 7782-42-5, Graphite, uses 147683-99-6, Cobalt lithium zirconium oxide 162684-16-4, Lithium manganese nickel oxide 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(method of charging nonaq. electrolyte secondary battery)
IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(method of charging nonaq. electrolyte secondary battery)

L60 ANSWER 24 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:470248 HCAPLUS Full-text
DOCUMENT NUMBER: 144:471465
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Tode, Shingo; Fujimoto, Hiroyuki; Takahashi, Yasufumi; Kinoshita, Akira; Hasegawa, Kazuhiro; Fujitani, Shin

PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060105241	A1	20060518	US 2005-168380	20050629
JP 2006164934	A	20060622	JP 2005-60288	20050304
KR 2006048698	A	20060518	KR 2005-57003	20050629
CN 1773765	A	20060517	CN 2005-10080727	20050630

PRIORITY APPLN. INFO.: JP 2004-329406 A 20041112
JP 2005-60288 A 20050304

ED Entered STN: 19 May 2006
AB A nonaq. electrolyte secondary battery comprises a pos. electrode containing a pos. active material, a neg. electrode containing a neg. active material and a nonaq. electrolyte, wherein a lithium transition metal complex oxide A formed by allowing LiCoO2 to contain at least both of Zr and Mg and a lithium transition metal complex oxide B having a layered structure and containing at least both of Mn and Ni as transition metals and containing Mo are mixed and used as the pos. active material.
IT 477700-15-5P, Cobalt lithium oxide (Co0.99LiO2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Mg- and Zr-doped; nonaq. electrolyte secondary battery)
RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

IT 372492-00-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Zr-doped; nonaq. electrolyte secondary battery)
RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2

Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

IT 756879-33-1 886752-61-0 886752-62-1
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 756879-33-1 HCAPLUS
CN Aluminum cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2
Al	x	7429-90-5

RN 886752-61-0 HCAPLUS
CN Cobalt lithium magnesium titanium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Ti	x	7440-32-6
Mg	x	7439-95-4
Li	x	7439-93-2

RN 886752-62-1 HCAPLUS
CN Cobalt lithium magnesium tin zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Sn	x	7440-31-5
Mg	x	7439-95-4
Li	x	7439-93-2

IT 872-36-6, Vinylene carbonate 532934-38-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

INCL 429231300; 429231600; 429223000; 429224000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery
IT Transition metal oxides
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(lithiated; nonaq. electrolyte secondary battery)
IT Secondary batteries
(lithium; nonaq. electrolyte secondary battery)
IT Battery cathodes
(nonaq. electrolyte secondary battery)
IT 477906-15-5P, Cobalt lithium oxide (Co0.99LiO2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Mg- and Zr-doped; nonaq. electrolyte secondary battery)
IT 372492-60-7P, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Zr-doped; nonaq. electrolyte secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Ethyl methyl carbonate 756879-33-1 864452-44-8 886752-61-0 886752-62-1
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 886752-63-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 872-36-6, Vinylene carbonate 7439-95-4, Magnesium, uses 7440-67-7, Zirconium, uses 532934-28-6, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)

L60 ANSWER 25 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:470245 HCAPLUS Full-text
DOCUMENT NUMBER: 144:471464
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Kinoshita, Akira; Fujimoto, Hiroyuki; Takahashi, Yasufumi; Tode, Shingo; Hasegawa, Kazuhiro; Fujitani, Shin
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20060105240	A1	20060518	US 2005-140064	2005 0531
JP 2006147191	A	20060608	JP 2004-332208	2004 1116
KR 2006055301	A	20060523	KR 2005-45568	2005 0530
CN 1776954	A	20060524	CN 2005-10073453	2005 0530
EP 1662600	A1	20060531	EP 2005-11719	2005 0531
EP 1662600	B1	20070411		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
PRIORITY APPLN. INFO.:			JP 2004-332208	A 2004 1116

ED Entered STN: 19 May 2006
AB A nonaq. electrolyte secondary battery includes a pos. electrode containing a pos. active material, a neg. electrode containing a neg. active material and a non-aqueous electrolyte, characterized in that lithium transition metal complex oxide A formed by allowing LiCoO2 to contain at least both of Zr and Mg and lithium transition metal complex oxide B having a layered structure and containing at least both of Mn and Ni as transition metals are mixed and used as the pos. active material, and vinylene carbonate and divinyl sulfone are contained in the non-aqueous electrolyte .
IT 477700-15-5P, Cobalt lithium oxide (Co0.99LiO2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Mg- and Zr-doped; nonaq. electrolyte secondary battery)
RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

IT 182442-95-1, Cobalt lithium manganese nickel oxide
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 182442-95-1 HCAPLUS
CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

IT 532934-38-6P, Cobalt lithium manganese nickel oxide
(Co0.34LiMn0.33Ni0.33O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(nonaq. electrolyte secondary
battery)
RN 532934-38-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O2)
(CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

IT 872-36-6, Vinylene carbonate
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary
battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

INCL 429231300; 429231600; 429223000; 429224000; 429324000; 429330000;
429340000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary
battery
IT Transition metal oxides
RL: DEV (Device component use); USES (Uses)
(lithiated; nonaq. electrolyte
secondary battery)
IT Secondary batteries
(lithium; nonaq. electrolyte
secondary battery)
IT Battery cathodes
Battery electrolytes
(nonaq. electrolyte secondary
battery)
IT 477700-15-5P, Cobalt lithium oxide (Co0.99LiO2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(Mg- and Zr-doped; nonaq. electrolyte
secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
623-53-0, Ethyl methyl carbonate 7782-42-5, Graphite, uses
182442-95-1, Cobalt lithium manganese nickel oxide
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary
battery)
IT 532974-38-6P, Cobalt lithium manganese nickel oxide
(Co0.34LiMn0.33Ni0.33O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(nonaq. electrolyte secondary

battery)
IT 55-98-1 77-77-0, Divinyl sulfone 872-36-6, Vinylene carbonate 7439-95-4, Magnesium, uses 7440-67-7, Zirconium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)

L60 ANSWER 26 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1262422 HCAPLUS Full-text
DOCUMENT NUMBER: 143:480471
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Kitao, Hideki; Fujihara, Toyoki; Takeda, Kazuhisa; Nakanishi, Naoya; Nohma, Toshiyuki
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050266313	A1	20051201	US 2005-138268	2005 0527
JP 2005340055	A	20051208	JP 2004-158780	2004 0528
CN 1702905	A	20051130	CN 2005-10074304	2005 0525
KR 2006048132	A	20060518	KR 2005-44816	2005 0527
PRIORITY APPLN. INFO.:			JP 2004-158780 A	2004 0528

ED Entered STN: 02 Dec 2005
AB In a non-aqueous electrolyte secondary battery using a layered lithium-transition metal composite oxide as a pos. electrode active material, elevated-temperature durability, i.e., elevated-temperature storage performance is enhanced without degrading battery capacity. The non-aqueous electrolyte secondary battery includes: a pos. electrode including, as a pos. electrode active material, layered lithium-transition metal composite oxide containing lithium, nickel, and manganese; a neg. electrode active material capable of intercalating and deintercalating lithium; and a non-aqueous electrolyte having lithium ion conductivity, and the lithium-transition metal composite oxide contains a group IVA element and a group IIA element of the periodic table.
IT 217309-43-8P, Cobalt lithium manganese nickel oxide (Co0.3LiMn0.3Ni0.4O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Mn- and Zr-doped; nonaq. electrolyte secondary battery)
RN 217309-43-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.3LiMn0.3Ni0.4O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2

Co	0.3	7440-48-4
Ni	0.4	7440-02-0
Mn	0.3	7439-96-5
Li	1	7439-93-2

IT 869792-63-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery)
RN 869792-63-2 HCAPLUS
CN Cobalt lithium magnesium manganese nickel zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Mg	x	7439-95-4
Li	x	7439-93-2

IC ICM H01M004-52
ICS H01M004-50
INCL 429231100; 429223000; 429224000; 429231500; 429231600; 429231300
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 49
ST nonaq electrolyte secondary battery
IT Secondary batteries
(lithium; nonaq. electrolyte secondary battery)
IT Battery cathodes
(nonaq. electrolyte secondary battery)
IT 217309-43-8P, Cobalt lithium manganese nickel oxide (Co0.3LiMn0.3Ni0.4O2)
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(Mn- and Zr-doped; nonaq. electrolyte secondary battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 7782-42-5, Graphite, uses 21324-40-3, Lithium hexafluorophosphate 362666-83-9, Aluminum lithium manganese oxide (Al0.1Li1.1Mn1.8O4)
RL: DEV (Device component use); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 869792-63-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonaq. electrolyte secondary battery)
IT 7439-96-5, Manganese, uses 7440-67-7, Zirconium, uses
RL: MOA (Modifier or additive use); USES (Uses)
(nonaq. electrolyte secondary battery)

L60 ANSWER 27 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1102902 HCAPLUS Full-text
DOCUMENT NUMBER: 143:329274
TITLE: Secondary nonaqueous electrolyte battery
INVENTOR(S): Abe, Hiroshi; Miyoshi, Kazuhiro; Takahashi,

Yasufumi; Fujimoto, Hiroyuki; Kinoshita, Akira; Toide, Shingo; Nakane, Ikuro; Fujitani, Shin
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan; Sanyo Electric Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005285630	A	20051013	JP 2004-99430	20040330
CA 2525923	A1	20050930	CA 2005-2525923	20050218
WO 2005099021	A1	20051020	WO 2005-JP2576	20050218
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1806361	A	20060719	CN 2005-80000453	20050218
EP 1739783	A1	20070103	EP 2005-710409	20050218
R: DE, FR, GB				
US 20060166096	A1	20060727	US 2006-563124	20060103
KR 2007004796	A	20070109	KR 2006-720316	20060929

PRIORITY APPLN. INFO.:			JP 2004-99430	A 20040330
			WO 2005-JP2576	W 20050218

ED Entered STN: 14 Oct 2005
AB The battery has a graphite anode, a LiCoO2 based cathode, and a nonaq. electrolyte solution; where the LiCoO2 contains Group IIA and Group IVA elements, and the electrolyte solution contains 0.2-1.5% of a compound having sulfonyl group.
IT 872-36-6, Vinylene carbonate
RL: DEV (Device component use); USES (Uses)
(electrolyte solns. containing sulfonyl compound for secondary lithium batteries)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)

IT 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(magnesium and zirconium containing lithium cobaltate cathodes for secondary lithium batteries)
RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IC ICM H01M010-40
ICS H01M004-02; H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery cathode lithium cobalt zinc magnesium oxide; sulfonyl compd electrolyte soln secondary lithium battery
IT Battery electrolytes
(electrolyte solns. containing sulfonyl compound for secondary lithium batteries)
IT Secondary batteries
(lithium; secondary lithium batteries with magnesium and zirconium containing lithium cobaltate cathodes and sulfonyl compound containing electrolyte solns.)
IT Battery cathodes
(magnesium and zirconium containing lithium cobaltate cathodes for secondary lithium batteries)
IT 77-77-0, Divinyl sulfone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 872-36-6, Vinylene carbonate 21324-40-3, Lithium hexafluorophosphate 433304-54-2
RL: DEV (Device component use); USES (Uses)
(electrolyte solns. containing sulfonyl compound for secondary lithium batteries)
IT 642999-33-5, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); USES (Uses)
(magnesium and zirconium containing lithium cobaltate cathodes for secondary lithium batteries)

L60 ANSWER 28 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1076074 HCAPLUS Full-text
DOCUMENT NUMBER: 143:369992
TITLE: Secondary nonaqueous electrolyte battery
INVENTOR(S): Takahashi, Yasufumi; Kinoshita, Akira; Tode, Shingo; Hasegawa, Kazuhiro; Fujimoto, Hiroyuki; Nakane, Ikuro; Fujitani, Shin
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005093880	A1	20051006	WO 2005-JP3723	2005 0304
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005317499	A	20051110	JP 2004-320394	2004 1104
EP 1734601	A1	20061220	EP 2005-719995	2005 0304
R: DE, FR, GB				
CN 1934733	A	20070321	CN 2005-80009615	2005 0304
US 20070196736	A1	20070823	US 2006-594459	2006 0926
PRIORITY APPLN. INFO.:			JP 2004-94475 A	2004 0329
			JP 2004-320394 A	2004 1104
			WO 2005-JP3723 W	2005 0304

ED Entered STN: 07 Oct 2005
AB The battery uses a cathode active mass comprising a substituted LiCoO2, containing at least Zr and Mg, and a layer structured Li transition metal oxide containing at least Mn and/or Ni. Preferably, the substituted LiCoO2 is LiaCo1-x-y-zZrxMgyMzO2, where M = Al, Ti, and/or Sn, za ≤1.1, x >0, Y >0, Z >0 and (x+y+z)≤0.03; and the Li transition metal oxide is LibMnsNitCouO2, where b ≤1.2, 0 <s ≤0.5, 0 <t ≤0.5, u ≥0, and (ss+t+u) =1.
IT 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 477709-15-5, Cobalt lithium oxide (Co0.99LiO2) 866231-36-4, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O3)
RL: DEV (Device component use); USES (Uses)
(mixts. of lithium transition metal oxides for secondary lithium battery cathodes)
RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

RN 866331-36-4 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Co	0.34	7440-48-4
Ni	0.33	7440-02-0
Mn	0.33	7439-96-5
Li	1	7439-93-2

IC ICM H01M004-58
ICS H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery cathode active mass oxide mixt; lithium cobalt zirconium magnesium oxide battery cathode; cobalt lithium manganese nickel oxide battery cathode
IT Battery cathodes
(mixts. of lithium transition metal oxides for secondary lithium battery cathodes)
IT 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 477709-15-5, Cobalt lithium oxide (Co0.99LiO2) 866231-36-4, Cobalt lithium manganese nickel oxide (Co0.34LiMn0.33Ni0.33O3)
RL: DEV (Device component use); USES (Uses)
(mixts. of lithium transition metal oxides for secondary lithium battery cathodes)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L60 ANSWER 29 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:726431 HCAPLUS Full-text
DOCUMENT NUMBER: 143:176285
TITLE: Nonaqueous electrolyte secondary lithium batteries with excellent charge storage
INVENTOR(S): Yanai, Atsushi; Yanagida, Katsunori; Kita, Yoshinori; Noma, Toshiyuki
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005216795	A	20050811	JP 2004-25189	2004 0202
PRIORITY APPLN. INFO.:			JP 2004-25189	2004 0202

ED Entered STN: 11 Aug 2005
AB The batteries comprise a Li-intercalating anode with active materials having BET surface area of ≤5.0 m2/g, a Li-containing transition metal oxide cathode, and nonaq. electrolytes with their solvents containing ≥50 volume% γ-butyrolactone and are characterized by the value of the depth of discharge (DOD) showing min. dV/d(DOD) (V = battery voltage on 5-h rate discharging; DOD = 10-80%; dV/d(DOD) <-0.015) (R) being 10-16.8% of DOD. Preferably, the cathode active material is Li-containing Co oxides or contain ≥1 element(s) selected from Groups 2, 4, 7, 8, 9, 10, 12, 13, and 14 elements. Cathode side reaction is prevented under the given DOD conditions.
IT 52627-24-4P, Cobalt lithium oxide 642999-33-5P,
Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active material; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)
RN 52627-24-4 HCAPLUS
CN Cobalt lithium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Li	x	7439-93-2

RN 642999-33-5 HCAPLUS
CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2

IC ICM H01M010-40
ICS H01M004-02; H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary lithium battery charge storage high; butyrolactone nonaq electrolyte solvent secondary lithium battery; cobalt lithium oxide cathode secondary lithium battery
IT Transition metal oxides
RL: DEV (Device component use); USES (Uses)

(cathode active materials containing; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT Secondary batteries
(lithium; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT Battery cathodes
(nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT Group VIIB element compounds
RL: DEV (Device component use); USES (Uses)
(oxides, transition metal oxide cathode active materials containing; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT Alkaline earth oxides
Group IIB element oxides
Group IIIA element oxides
Group IVA element oxides
Group IVB element oxides
Group VIII element oxides
RL: DEV (Device component use); USES (Uses)
(transition metal oxide cathode active materials containing; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT 52627-24-4P, Cobalt lithium oxide 149087-95-6P, Cobalt lithium tin oxide 642999-33-5P, Cobalt lithium magnesium zirconium oxide
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(cathode active material; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT 14283-07-9, Lithium tetrafluoroborate
RL: DEV (Device component use); USES (Uses)
(electrolyte; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT 96-49-1, Ethylene carbonate
RL: DEV (Device component use); USES (Uses)
(solvent with γ-butyrolactone; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

IT 96-48-0, γ-Butyrolactone
RL: DEV (Device component use); USES (Uses)
(solvent; nonaq. γ-butyrolactone electrolyte secondary lithium batteries with excellent charge storage)

L60 ANSWER 30 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:451706 HCAPLUS Full-text
DOCUMENT NUMBER: 143:10533
TITLE: Secondary nonaqueous electrolyte battery
INVENTOR(S): Takeuchi, Takashi; Nagasaki, Akira; Yoshizawa, Hiroshi
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: PCT Int. Appl., 57 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005048380	A1	20050526	WO 2004-JP16653	2004 1110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1875505	A	20061206	CN 2004-80032047	2004 1110
KR 789081	B1	20071226	KR 2006-707766	2006 0421

PRIORITY APPLN. INFO.:			JP 2003-387160	A 2003 1117
			WO 2004-JP16653	W 2004 1110

ED Entered STN: 27 May 2005
AB The battery has a separator between a cathode and an anode and an electrolyte solution; where the cathode contains a cathode active mass, comprising a Li composite oxide: LixMel-y-zMyLz02 [Me = transition metal element(s) excluding Ti, Mn, Y, and Zr; M = Mg, Ti, Mn, and/or Zn; L = Al, Ca, Ba, Sr, Y, and/or Zr; x = 1-1.05; y = 0.005-0.1 (but y = 0.005-0.5 when M is Mn); and z = 0-0.05]; and the separator consists of a stack of single-layer films, having a fine porous structure; where the single-layer film facing the cathode is made of polypropylene.
IT 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 852333-28-9, Cobalt lithium magnesium zirconium oxide (Co0.94LiMg0.05Zr0.01O2)
RL: DEV (Device component use); USES (Uses)
(cathodes containing lithium composite oxides and separators containing polypropylene for secondary lithium batteries)
RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

RN 852333-28-9 HCAPLUS

CN Cobalt lithium magnesium zirconium oxide (Co0.94LiMg0.05Zr0.01O2)
(CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Zr	0.01	7440-67-7
Co	0.94	7440-48-4
Mg	0.05	7439-95-4
Li	1	7439-93-2

IC ICM H01M004-48
ICS H01M004-58; H01M004-02; H01M010-40; H01M002-16
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery cathode lithium composite oxide; battery separator single layer film stack polyethylene
IT Battery cathodes
Secondary battery separators
(cathodes containing lithium composite oxides and separators containing polypropylene for secondary lithium batteries)
IT Secondary batteries
(lithium; cathodes containing lithium composite oxides and separators containing polypropylene for secondary lithium batteries)
IT 7782-42-5, Graphite, uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene 144419-56-7, Cobalt lithium magnesium oxide (Co0.95LiMg0.05O2) 345664-05-3, Aluminum cobalt lithium oxide (Al0.01Co0.99LiO2) 372491-81-1, Aluminum cobalt lithium magnesium oxide (Al0.1Co0.89LiMg0.01O2) 372491-82-2, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.96LiMg0.03O2) 372491-83-3, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.94LiMg0.05O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 478814-69-6, Aluminum cobalt lithium magnesium oxide (Al0.05Co0.9LiMg0.05O2) 489431-33-6, Aluminum cobalt lithium oxide (Al0.01Co0.98LiO2) 721448-53-9, Cobalt lithium magnesium oxide (Co0.94LiMg0.05O2) 852333-25-6, Aluminum cobalt lithium magnesium oxide (Al0.1Co0.85LiMg0.05O2) 852333-26-7, Aluminum cobalt lithium magnesium oxide (Al0.2Co0.79LiMg0.01O2) 852333-27-8, Cobalt lithium magnesium strontium oxide (Co0.94LiMg0.05Sr0.01O2) 852333-28-9, Cobalt lithium magnesium zirconium oxide (Co0.94LiMg0.05Zr0.01O2) 852333-29-0, Calcium cobalt lithium magnesium oxide (Ca0.01Co0.94LiMg0.05O2) 852333-31-4, Barium cobalt lithium magnesium oxide (Ba0.01Co0.94LiMg0.05O2) 852333-33-6, Cobalt lithium magnesium yttrium oxide (Co0.94LiMg0.05Y0.01O2) 852333-35-8, Aluminum cobalt lithium titanium oxide (Al0.01Co0.94LiTi0.05O2) 852333-37-0, Aluminum cobalt lithium zinc oxide (Al0.01Co0.94LiZn0.05O2) 852333-38-1, Aluminum cobalt lithium manganese oxide (Al0.01Co0.94LiMn0.05O2) 852333-39-2, Aluminum cobalt lithium magnesium oxide (Al0.03Co0.92LiMg0.05O2) 852333-41-6, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.91LiMg0.08O2) 852333-42-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.84LiMg0.15O2) 852333-43-8, Aluminum cobalt lithium magnesium oxide (Al0.05Co0.89LiMg0.06O2)
RL: DEV (Device component use); USES (Uses)
(cathodes containing lithium composite oxides and separators containing polypropylene for secondary lithium batteries)
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L60 ANSWER 31 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:1020204 HCAPLUS Full-text
DOCUMENT NUMBER: 142:9225
TITLE: Nonaqueous electrolyte secondary battery and charge/discharge system thereof
INVENTOR(S): Watanabe, Shoichiro; Nagayama, Masatoshi; Kuranaka, So
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co. Ltd., Japan
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004102701	A1	20041125	WO 2004-JP6620	2004 0511
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2004342500	A	20041202	JP 2003-138849	2003 0516
CN 1735985	A	20060215	CN 2004-80011814	2004 0511
EP 1655793	A1	20060510	EP 2004-732213	2004 0511
R: DE, FR, GB				
US 20060194109	A1	20060831	US 2005-552920	2005 1011
KR 790270	B1	20080102	KR 2005-720899	2005 1103
PRIORITY APPLN. INFO.:			JP 2003-138849 A	2003 0516
			WO 2004-JP6620 W	2004 0511

ED Entered STN: 26 Nov 2004
AB The disclosed nonaq. electrolyte secondary comprises a pos. electrode composed of a pos. electrode mix layer, a neg. electrode composed of a neg. electrode mix layer, a separator or a lithium ion-conductive porous film interposed between the pos. electrode and the neg. electrode, and a lithium ion-conductive nonaq. electrolyte. The pos. electrode mix layer contains a pos. electrode active material composed of a lithium-transition metal composite oxide, and the lithium-transition metal composite oxide contains lithium, a transition metal and a metal other than the transition metal. The neg. electrode mix layer contains a neg. electrode active material composed of a carbon material. In the

region where the pos. electrode mix layer and the neg. electrode mix layer face each other, the ratio (R: Wp/Wn) of the weight of the pos. electrode active material (Wp) contained in the pos. electrode mix layer per unit area to the weight of the neg. electrode active material (Wn) contained in the neg. electrode mix layer per unit area is 1.3-2.2. In the normal operation, the charging final voltage of this nonaq. electrolyte secondary battery is set at 4.25-4.5 V.

IT 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 405890-05-3, Cobalt lithium manganese nickel oxide (Co0.1LiMn0.45Ni0.45O2) 477700-15-5, Cobalt lithium oxide (Co0.99LiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode active substance for lithium secondary battery)

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

RN 405890-05-3 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.1LiMn0.45Ni0.45O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.1	7440-48-4
Ni	0.45	7440-02-0
Mn	0.45	7439-96-5
Li	1	7439-93-2

RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

IC ICM H01M004-02
ICS H01M004-58; H01M010-40; H01M010-44
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium secondary battery electrode active substance ratio
IT Battery anodes
(lithium secondary battery; graphite as anode active substance for)
IT Battery cathodes
(lithium secondary battery; lithium transition metal oxides as cathode active substances for)
IT Secondary batteries
(lithium; charging voltage limites for)
IT 7782-42-5, Graphite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(anode active substance for lithium secondary battery)

IT 144419-56-7, Cobalt lithium magnesium oxide (Co0.95LiMg0.05O2)
372491-83-3, Aluminum cobalt lithium magnesium oxide
(Al0.01Co0.94LiMg0.05O2) 372492-90-7, Aluminum cobalt
lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
405890-05-3, Cobalt lithium manganese nickel oxide
(Co0.1LiMn0.45Ni0.45O2) 405890-08-6, Aluminum lithium manganese
nickel oxide (Al0.1LiMn0.45Ni0.45O2) 422520-44-3, Lithium
manganese nickel titanium oxide (LiMn0.45Ni0.45Ti0.1O2)
477700-15-5, Cobalt lithium oxide (Co0.99LiO2)
478814-69-6, Aluminum cobalt lithium magnesium oxide
(Al0.05Co0.9LiMg0.05O2) 489431-33-6, Aluminum cobalt lithium
oxide (Al0.01Co0.98LiO2) 709654-46-6 719276-54-7, Aluminum
cobalt lithium magnesium oxide (Al0.01Co0.94Lil.01Mg0.05O2)
798575-07-2, Aluminum cobalt lithium magnesium oxide
(Al0.01Co0.94Lil.02Mg0.05O2) 798575-08-3, Aluminum cobalt
lithium magnesium oxide (Al0.01Co0.94Lil.03Mg0.05O2)
798575-10-7, Aluminum cobalt lithium magnesium oxide
(Al0.05Co0.85LiMg0.1O2) 798575-11-8, Aluminum cobalt lithium
magnesium oxide (Al0.02Co0.88LiMg0.1O2) 798575-12-9, Lithium
magnesium manganese nickel oxide (LiMg0.1Mn0.45Ni0.45O2)
798575-13-0, Lithium manganese nickel strontium oxide
(LiMn0.45Ni0.45Sr0.1O2)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode active substance for lithium
secondary battery)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L60 ANSWER 32 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:796473 HCAPLUS Full-text
DOCUMENT NUMBER: 141:263471
TITLE: Cathode active material for nonaqueous
electrolyte secondary battery
INVENTOR(S): Takahashi, Takeshi; Oba, Takeshi; Fujino,
Kenji; Tokuno, Junichi; Morizaki, Masuhiro;
Kondo, Takeyuki; Seyama, Jun
PATENT ASSIGNEE(S): Nichia Corporation, Japan
SOURCE: Eur. Pat. Appl., 54 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1463132	A2	20040929	EP 2004-7076	2004 0324
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
JP 2005050712	A	20050224	JP 2003-282341	2003 0730
JP 2005123111	A	20050512	JP 2003-358885	2003 1020
JP 2005190900	A	20050714	JP 2003-432856	2003 1226
JP 2004311408	A	20041104	JP 2004-42699	2004 0219
TW 286849	B	20070911	TW 2004-93105565	

					2004 0303
KR 2004084643	A	20041006	KR 2004-17292		2004 0315
US 20040229123	A1	20041118	US 2004-806206		2004 0323
CN 1532966	A	20040929	CN 2004-10007990		2004 0325
PRIORITY APPLN. INFO.:			JP 2003-83806	A	2003 0325
			JP 2003-282341	A	2003 0730
			JP 2003-358885	A	2003 1020
			JP 2003-432856	A	2003 1226

ED Entered STN: 30 Sep 2004

AB Disclosed is a pos. electrode active material for a nonaq. electrolyte secondary battery having at least a lithium-transition metal composite oxide of a layer structure, in which an existence ratio of at least one selected from the group consisting of elements which may become tetravalent and magnesium is 20% or more on a surface of the lithium-transition metal composite oxide. By use of this pos. electrode active material, a nonaq. electrolyte secondary battery having excellent battery characteristics, specifically, having excellent high rate characteristics, cycle characteristics, low-temperature characteristics, thermal stability, and the like, under the even more harsh environment for use can be realized.

IT 182442-95-1, Cobalt lithium manganese nickel oxide
RL: DEV (Device component use); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)

RN 182442-95-1 HCAPLUS

CN Cobalt lithium manganese nickel oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Co	x	7440-48-4
Ni	x	7440-02-0
Mn	x	7439-96-5
Li	x	7439-93-2

IT 642999-33-5P, Cobalt lithium magnesium zirconium oxide 756879-37-1P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)

RN 642999-33-5 HCAPLUS

CN Cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7

Co		x	7440-48-4
Mg		x	7439-95-4
Li		x	7439-93-2

RN 756879-33-1 HCAPLUS
CN Aluminum cobalt lithium magnesium zirconium oxide (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Zr	x	7440-67-7
Co	x	7440-48-4
Mg	x	7439-95-4
Li	x	7439-93-2
Al	x	7429-90-5

IC ICM H01M004-48
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 7439-93-2, Lithium, uses 131344-56-4, Cobalt lithium nickel oxide 177997-13-6, Aluminum cobalt lithium nickel oxide 182442-95-1, Cobalt lithium manganese nickel oxide
RL: DEV (Device component use); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)
IT 116713-67-8P, Cobalt lithium titanium oxide 147683-99-6P, Cobalt lithium zirconium oxide 187144-48-5P, Cobalt lithium magnesium oxide 191025-46-4P, Cobalt lithium nickel zirconium oxide 642999-33-5P, Cobalt lithium magnesium zirconium oxide 756879-33-1P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(cathode active material for nonaq. electrolyte secondary battery)

L60 ANSWER 33 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:78030 HCAPLUS Full-text
DOCUMENT NUMBER: 140:131122
TITLE: Nonaqueous-electrolyte battery with cathode containing plural lithium mixed oxides
INVENTOR(S): Ukawa, Shinsaku
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004031165	A	20040129	JP 2002-186698	2002 0626
PRIORITY APPLN. INFO.:			JP 2002-186698	2002 0626

ED Entered STN: 30 Jan 2004
AB The claimed battery is equipped with a cathode containing LixCo1-yMyO2 (M = Al, Mg, or Mn; 0 < x ≤ 1; 0 < y ≤ 0.5) and 0.1-50 weight% LixNi1-zCozMyO2 (M = Al, Mg, or Mn; 0 < x ≤ 1; 0 < y ≤ 0.5; 0 < z ≤ 0.5). The battery provides high capacity and tolerance for overdischarge.
IT 203005-82-7, Cobalt lithium manganese nickel oxide

(Co0.15LiMn0.05Ni0.8O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2)
RL: DEV (Device component use); USES (Uses)
(nonaq.-electrolyte battery with cathode containing plural lithium mixed oxides)
RN 203005-82-7 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.15LiMn0.05Ni0.8O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.15	7440-48-4
Ni	0.8	7440-02-0
Mn	0.05	7439-96-5
Li	1	7439-93-2

RN 372492-00-7 HCAPLUS
CN Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Mg	0.01	7439-95-4
Li	1	7439-93-2
Al	0.01	7429-90-5

IC ICM H01M004-58
ICS H01M004-02; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium nickel cobalt mixed oxide cathode nonaq battery
IT Secondary batteries
(lithium; nonaq.-electrolyte battery with cathode containing plural lithium mixed oxides)
IT Battery cathodes
(nonaq.-electrolyte battery with cathode containing plural lithium mixed oxides)
IT 142447-14-1, Cobalt lithium manganese oxide (Co0.98LiMn0.02O2) 193214-24-3, Aluminum cobalt lithium nickel oxide (Al0.05Co0.15LiNi0.8O2) 195880-90-1, Cobalt lithium magnesium nickel oxide (Co0.15LiMg0.05Ni0.8O2) 203005-82-7, Cobalt lithium manganese nickel oxide (Co0.15LiMn0.05Ni0.8O2) 372492-00-7, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.98LiMg0.01O2) 649560-56-5, Aluminum cobalt lithium magnesium oxide (Al0.01Co0.97LiMg0.02O2)
RL: DEV (Device component use); USES (Uses)
(nonaq.-electrolyte battery with cathode containing plural lithium mixed oxides)

L60 ANSWER 34 OF 34 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:778145 HCAPLUS Full-text
DOCUMENT NUMBER: 139:294649
TITLE: Active substance of positive electrode and nonaqueous electrolyte battery containing the same
INVENTOR(S): Shiozaki, Ryuji; Fujii, Akihiro; Inamasu, Tokuo; Nakagawa, Hiroe; Kozono, Suguru; Nukuda, Toshiyuki
PATENT ASSIGNEE(S): Yuasa Corporation, Japan
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003081698	A1	20031002	WO 2003-JP3691	2003 0326
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003221171	A1	20031008	AU 2003-221171	2003 0326
EP 1469539	A1	20041020	EP 2003-712972	2003 0326
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1643714	A	20050720	CN 2003-806935	2003 0326
CN 1967914	A	20070523	CN 2006-10132268	2003 0326
US 20050019659	A1	20050127	US 2004-500819	2004 0707
PRIORITY APPLN. INFO.:			JP 2002-88229 A	2002 0327
			JP 2002-137870 A	2002 0514
			CN 2003-806935 A3	2003 0326
			WO 2003-JP3691 W	2003 0326

ED Entered STN: 03 Oct 2003

AB The pos. electrode active substance is composed at least of lithium (Li), manganese (Mn), nickel (Ni), cobalt (Co) and oxygen (O), and contains a double oxide of the chemical composition formula: LiaMnbNicCodOe (wherein $0 < a \leq 1.3$; $b-c \leq 0.05$; $0.6 \leq d < 1$; $1.7 \leq e \leq 2.3$; and $b+c+d = 1$). The nonaq. electrolyte battery comprises a pos. electrode containing the above active substance, a neg. electrode and a nonaq. electrolyte. The anode active substances give batteries exhibiting high energy d. and excellent high-rate discharge performance and, even when high-temperature charging is effected, suffering less deterioration of battery performance.

IT 214473-76-4, Cobalt lithium manganese nickel oxide (Co0.9LiMn0.05Ni0.05O2) 477700-15-5, Cobalt lithium oxide (Co0.99LiO2) 479624-33-4, Cobalt lithium manganese nickel oxide (Co0.98LiMn0.01Ni0.01O2) 479624-34-5, Cobalt lithium manganese nickel oxide (Co0.95LiMn0.02Ni0.02O2) 532934-03-5, Cobalt lithium manganese nickel oxide (Co0.67LiMn0.16Ni0.16O2) 607744-87-6, Cobalt lithium manganese nickel oxide (Co0.83LiMn0.08Ni0.08O2) 607744-88-7, Cobalt lithium manganese nickel oxide (Co0.95LiMn0.04Ni0.01O2) 607744-89-8, Cobalt lithium manganese nickel oxide (Co0.95LiMn0.01Ni0.04O2)
RL: DEV (Device component use); USES (Uses)
(anode active substance for nonaq electrolyte batteries)

RN 214473-76-4 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.9LiMn0.05Ni0.05O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.9	7440-48-4
Ni	0.05	7440-02-0
Mn	0.05	7439-96-5
Li	1	7439-93-2

RN 477700-15-5 HCAPLUS
CN Cobalt lithium oxide (Co0.99LiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.99	7440-48-4
Li	1	7439-93-2

RN 479624-33-4 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.98LiMn0.01Ni0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.98	7440-48-4
Ni	0.01	7440-02-0
Mn	0.01	7439-96-5
Li	1	7439-93-2

RN 479624-34-5 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.95LiMn0.02Ni0.02O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.95	7440-48-4
Ni	0.02	7440-02-0
Mn	0.02	7439-96-5
Li	1	7439-93-2

RN 532934-03-5 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.67LiMn0.16Ni0.16O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.67	7440-48-4
Ni	0.16	7440-02-0
Mn	0.16	7439-96-5
Li	1	7439-93-2

RN 607744-87-6 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.83LiMn0.08Ni0.08O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.83	7440-48-4
Ni	0.08	7440-02-0
Mn	0.08	7439-96-5
Li	1	7439-93-2

RN 607744-88-7 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.95LiMn0.04Ni0.01O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.95	7440-48-4
Ni	0.01	7440-02-0
Mn	0.04	7439-96-5
Li	1	7439-93-2

RN 607744-89-8 HCAPLUS
CN Cobalt lithium manganese nickel oxide (Co0.95LiMn0.01Ni0.04O2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	0.95	7440-48-4
Ni	0.04	7440-02-0
Mn	0.01	7439-96-5
Li	1	7439-93-2

IC ICM H01M004-58
ICS H01M004-02; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT Battery anodes
(lithium manganese nickel cobalt oxides as active substances for)
IT Secondary batteries
(lithium; anode active substances for nonaq. electrolyte type)
IT 21485-76-4, Cobalt lithium manganese nickel oxide (Co0.9LiMn0.05Ni0.05O2) 477700-15-5, Cobalt lithium oxide (Co0.99LiO2) 479624-32-4, Cobalt lithium manganese nickel oxide (Co0.98LiMn0.01Ni0.01O2) 479624-34-6, Cobalt lithium manganese nickel oxide (Co0.95LiMn0.02Ni0.02O2) 582934-03-5, Cobalt lithium manganese nickel oxide (Co0.67LiMn0.16Ni0.16O2) 607744-87-6, Cobalt lithium manganese nickel oxide (Co0.83LiMn0.08Ni0.08O2) 607744-88-7, Cobalt lithium manganese nickel oxide (Co0.95LiMn0.04Ni0.01O2) 607744-89-8, Cobalt lithium

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     manganese nickel oxide (Co0.95LiMn0.01Ni0.04O2)
     RL: DEV (Device component use); USES (Uses)
        (anode active substance for nonaq electrolyte
        batteries)
REFERENCE COUNT:          27    THERE ARE 27 CITED REFERENCES AVAILABLE
                                FOR THIS RECORD. ALL CITATIONS AVAILABLE
                                IN THE RE FORMAT
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FULL SEARCH HISTORY

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=> d his nofile

     (FILE 'HOME' ENTERED AT 09:58:55 ON 29 JUL 2008)

     FILE 'HCAPLUS' ENTERED AT 09:59:26 ON 29 JUL 2008
                E US20070196736/PN
L1             1 SEA ABB=ON  PLU=ON  US20070196736/PN
                D ALL
                SEL RN

     FILE 'REGISTRY' ENTERED AT 10:01:13 ON 29 JUL 2008
L2             3 SEA ABB=ON  PLU=ON  (372492-00-7/BI OR 477700-15-5/BI
                OR 866331-36-4/BI)
                D SCAN
                E 477700-15-5/RN
L3             1 SEA ABB=ON  PLU=ON  477700-15-5/RN
                D SCAN
L4         72683 SEA ABB=ON  PLU=ON  (LI(L)O(L)M)/ELS(L)3-6/ELC.SUB
L5             QUE ABB=ON  PLU=ON  3/ELC.SUB
L6          4104 SEA ABB=ON  PLU=ON  L4 AND L5
L7           297 SEA ABB=ON  PLU=ON  L6 AND .01-9/CO
L8             8 SEA ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)MG)/ELS(L)5/ELC
                .SUB
L9           995 SEA ABB=ON  PLU=ON  (LI(L)O(L)CO(L)NI(L)MN)/ELS(L)5/ELC
                .SUB
L10            3 SEA ABB=ON  PLU=ON  L2 AND L4
L11            0 SEA ABB=ON  PLU=ON  L2 AND L8
                D SCAN L10
L12            6 SEA ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)MG(L)M)/ELS(L)6
                /ELC.SUB
                D SCAN
L13            5 SEA ABB=ON  PLU=ON  L12 AND (AL OR TI OR SN)
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 10:25:58 ON 29 JUL 2008

     FILE 'REGISTRY' ENTERED AT 10:28:05 ON 29 JUL 2008
L14           24 SEA ABB=ON  PLU=ON  (LI(L)O(L)CO(L)ZR(L)MG(L)M)/ELS

     FILE 'HCAPLUS' ENTERED AT 10:29:22 ON 29 JUL 2008
L15           13 SEA ABB=ON  PLU=ON  L13
                D L15 1-13 TI CC
L16           14 SEA ABB=ON  PLU=ON  L12
L17           48 SEA ABB=ON  PLU=ON  L10
L18           25 SEA ABB=ON  PLU=ON  L8
L19         6603 SEA ABB=ON  PLU=ON  L7
L20         1237 SEA ABB=ON  PLU=ON  L9
L21           43 SEA ABB=ON  PLU=ON  L14
L22           25 SEA ABB=ON  PLU=ON  L21 AND L18
                D SCAN L1
L23       237753 SEA ABB=ON  PLU=ON  "BATTERY CATHODES"+MAX/CT
L24           13 SEA ABB=ON  PLU=ON  L23 AND L16
L25         7511 SEA ABB=ON  PLU=ON  ((L15 OR L16 OR L17 OR L18 OR L19
                OR L20 OR L21 OR L22) OR L24)
L26         7286 SEA ABB=ON  PLU=ON  L25 AND L23
                E SECONDARY BATTERIES+ALL/CT
                E SECONDARY BATTERY+ALL/CT
                E SECONDARY BATTERIES/CT 25
L27        15324 SEA ABB=ON  PLU=ON  "SECONDARY BATTERY CATHODES"+MAX/CT

L28         3110 SEA ABB=ON  PLU=ON  L27 AND L26
L29           17 SEA ABB=ON  PLU=ON  L28 AND L18
L30       200884 SEA ABB=ON  PLU=ON  "SECONDARY BATTERIES"+MAX/CT OR
                (SECONDAR? OR LITHIUM OR LI)(2A)BATTER?
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L31             QUE ABB=ON  PLU=ON  CATHOD? OR POSITIVE(A)ELECTROD?
L32             QUE ABB=ON  PLU=ON  "SECONDARY BATTERY ANODES"+MAX/CT
                OR ANOD? OR NEGATIVE(A)ELECTROD?
L33             QUE ABB=ON  PLU=ON  ELECTROLYT?(2A)(NONAQ? OR NON(W)AQU
                EOUS OR ORGANIC)
L34          5921 SEA ABB=ON  PLU=ON  L30 AND (L31 OR L23 OR L27) AND
                L32 AND L33
L35          1321 SEA ABB=ON  PLU=ON  L26 AND L34
L36            11 SEA ABB=ON  PLU=ON  L35 AND (L18 OR L21)
L37             QUE ABB=ON  PLU=ON  LAYER?
L38           362 SEA ABB=ON  PLU=ON  L35 AND L37
L39             7 SEA ABB=ON  PLU=ON  L36 AND L37
                E PARTICLES+ALL/CT
L40             QUE ABB=ON  PLU=ON  PARTICLES+MAX/CT
L41          4220 SEA ABB=ON  PLU=ON  (ZR OR ZIRCONIUM)(L)L40
L42             0 SEA ABB=ON  PLU=ON  L41 AND L38
L43            14 SEA ABB=ON  PLU=ON  L38 AND L40
                D QUE
L44             QUE ABB=ON  PLU=ON  PARTICL? OR MICROPARTICL? OR
                PARTICULAT? OR DUST? OR GRIT? OR GRAIN# OR GRANUL? OR
                POWDER? OR SOOT? OR SMUT? OR FINES# OR PRILL? OR
                FLAKE# OR PELLET?
L45            76 SEA ABB=ON  PLU=ON  L38 AND L44
L46            14 SEA ABB=ON  PLU=ON  L20 AND (L18 OR L21)
L47             0 SEA ABB=ON  PLU=ON  L46 AND L45
L48             4 SEA ABB=ON  PLU=ON  L46 AND L38
L49             4 SEA ABB=ON  PLU=ON  L46 AND L35
                D QUE L29
L50            27 SEA ABB=ON  PLU=ON  L20 AND (L15 OR L16 OR L17 OR L18
                OR L21)
L51             6 SEA ABB=ON  PLU=ON  L50 AND (L38 OR L45)
                D SCAN
L52            16 SEA ABB=ON  PLU=ON  L17 AND L20
L53            16 SEA ABB=ON  PLU=ON  L52 AND L30 AND (L23 OR L27 OR
                L31)
L54            12 SEA ABB=ON  PLU=ON  L53 AND L33
L55            40 SEA ABB=ON  PLU=ON  L36 OR L39 OR L43 OR (L48 OR L49)
                OR (L51 OR L52 OR L53 OR L54)
L56            48 SEA ABB=ON  PLU=ON  L50 OR L55
L57            33 SEA ABB=ON  PLU=ON  L56 AND ((L15 OR L16 OR L17 OR
                L18))
L58            16 SEA ABB=ON  PLU=ON  L56 AND L22
L59            33 SEA ABB=ON  PLU=ON  L57 OR L58
L60            34 SEA ABB=ON  PLU=ON  L56 AND ((L15 OR L16 OR L17 OR
                L18) OR L21)
                SAV TEMP L60 WEI459HCP/A
                D QUE L60
                D L60 1-34 IBIB ED ABS HITSTR HITIND
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